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June 25, 2010



Certified Mail

Ms. Janelle J. Trowhill
Bureau of Air Quality
South Carolina Dept. of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Subject: 3M Greenville Film Plant - Title V Permit #: TV-1200-0073
Title V Permit Renewal Application

Dear Ms. Trowhill:

Enclosed please find three copies of the Title V permit renewal application for 3M's Greenville Film Plant. 3M is submitting two public copies and one confidential copy of the permit application. Please note that some of the information in this application is considered confidential. In particular, process flow diagrams and information related to throughput, design rate, emission factors, and formulation data for specific emission points have been suppressed in the individual forms in the public copies.

3M, as owner and operator of the 3M plant located in Greenville, South Carolina, believes that this information is not public knowledge or general knowledge in the trade or business; it is secret information that has not been placed in the public domain. Thus, it is entitled to be protected from being divulged to the public and should be considered as trade secret information and held confidential. The confidential information is provided in a separate document and marked "Confidential".

As part of this Title V renewal, we reviewed all the emission units and their corresponding stack vent numbers. We reorganized units ID 01, 02, 03 and 06. The new organization provides a better understanding of the configurations of Train 1 and Train 2. It clearly identifies equipment that shares the same stack and equipment with its own stack. The emission calculations were based on AP-42 emission factors as used in previous submittals resulting in no increases.

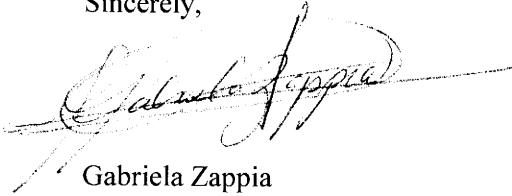
G1/G2 mixing operations were incorporated in the Insignificant Activity list. The emissions from these units are less than 5 tpy of VOC since they only mix waterbased coatings. The fire pump and emergency generator are subject to 40 CFR 63 Subpart ZZZZ, however they don't have any requirements associated with this regulation. They are included in the insignificant activity list. Updated stack vent diagrams for G-3 are included in this application.

No new modeling was conducted for this submittal since no emissions were increased since the last modeling. The application includes the latest modeling results. These results include an air dispersion model for particulates with the most updated information from both Greenville Tape

and Greenville Film plants conducted in December 2009, an air toxics modeling conducted in 2004 and G3 air toxics modeling conducted in December 2006.

If you have any questions about this application, please contact me at (651) 737-3629 or by e-mail at gzappia@mmm.com.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Gabriela Zappia', written in dark ink.

Gabriela Zappia
Senior Environmental Engineer



Enclosure – Title V renewal application (2 public copies and 1 confidential copy)

3M Greenville – Film Title V Renewal Application

Table of Contents

Attachment A – Permit Application Forms

1. Form A
2. Form B
3. Form C
4. Form D
5. Form E
6. Form F
7. Form G
8. Form H
9. Form I
10. Form J
11. Form K



Attachment B – Emission Calculations

Attachment C – Process Flow Diagrams & Detailed Process Description

Attachment D – Facility Stack/Vent Diagram

Attachment E – Permit Markup

Attachment F – Ambient Air Quality Modeling & Analysis

1. Greenville Site – Particulates – December 2009
2. G3 Film Line – Air Toxics – December 2006
3. Greenville Site – Criteria Pollutants, Air Toxics – June 2004

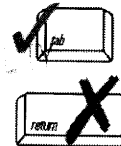
Attachment G – Federal & State Regulatory Applicability Review

Attachment A

Title V Permit Renewal Application Forms

**Title V Permit Application
Facility Profile – Form A
Bureau of Air Quality
Page 1 of 1**

Please Refer to Instruction Pages Before Completing This Form
When filling out forms on the computer, use only the tab key to move your cursor - do not
use the return key.



FACILITY INFORMATION

1. Company Name for Permit:	3M Company – Greenville Film		2. Existing State Air Permit Number:	1200-0073	
3. Business Mailing Address:	1400 Perimeter Road	4. City:	Greenville	5. State:	SC
		6. Zip Code:	29605		
7. Plant Location (Street or Highway):	1400 Perimeter Road	8. City:	Greenville	9. State:	SC
		10. Zip Code:	29605		
11. County:	Greenville	12. Primary SIC Code:	3081	13. NAICS Code:	326113
14. EPA (AIRS) Facility Identification No.:	SC0980602841	15. Latitude:	34° 44' 55"	16. Longitude:	82° 21' 36"
17. Date Facility Was Built:					

CONTACT INFORMATION

RESPONSIBLE OFFICIAL AUTHORIZED REPRESENTATIVE:			ENVIRONMENTAL / TECHNICAL CONTACT:		
18. Last:	Waldon	19. First:	Tom	29. Last:	Stone
		30. First:	Barry	31. Title:	Engineer
20. Title:	Plant Manager		32. Mailing Address Line 1:	1408 Perimeter Road	
21. Mailing Address Line 1:	1400 Perimeter Road		33. Mailing Address Line 2:		
22. Mailing Address Line 2:			34. City:	Greenville	35. State:
23. City:	Greenville	24. State:	SC	36. Zip Code:	29605
25. Zip Code:	29605	26. Phone No.:	(864) 299-4248	27. Fax No.:	(864) 299-4342
28. E-mail Address:	tmwaldon2@mmm.com		37. Phone No.:	(864) 299-4369	38. Fax No.:
			39. E-mail Address:	blstone@mmm.com	

PURPOSE OF APPLICATION

1. Facility Type: ☐ Conditional Major ☒ Title V ☐ Co-Located Facility (co-located facility if yes, name and permit # of co-located facility):

41. Permit Action: ☐ New ☒ Renewal
Modification: ☐ Administrative Amendment (Submit Form AA) ☐ Minor Modification (Submit Form MM) ☐ Significant Modification (Submit Form SM) ☐ Operational Flexibility (Submit Form OF)

42. Attainment Area Designation: Is the source located within a non-attainment area for any of the criteria air pollutants? ☒ No ☐ Yes
If "Yes", Indicate Non-attainment Pollutant(s): ☐ PM_{2.5} ☐ O₃ (Precursor pollutants to Ozone are NO_x and VOC)

SIGNATURES

I certify, to the best of my knowledge and belief, that no applicable standards and/or regulations will be contravened or violated. I certify that any application form, report, or compliance certification submitted in this permit application is true, accurate, and complete based on information and belief formed after reasonable inquiry. I understand that any statements and/or descriptions which are found to be incorrect may result in the immediate revocation of any permit issued for this application.

Tom Waldon
43. Responsible Official Signature/Authorized Representative Title/Position **Plant Manager** Date *June 15, 2010*
Note* For change or addition of responsible official(s) submit Responsible Official (RO) Notification Form (see attachment E)

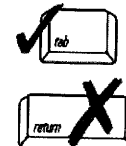
CONSULTING FIRM INFORMATION

44. Consulting Firm:			
Preparer Name:	45. Last		
47. Mailing Address Line 1:			
48. Mailing Address Line 2:			
49. City:	50. State:	51. Zip Code:	
52. Phone No.:	() - ext.	53. Fax No.:	() -
54. E-mail Address:			

PUBLIC COPY

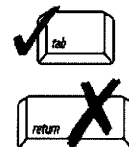
****INCOMPLETE APPLICATIONS WILL BE RETURNED****

**Title V Permit Application
Application Checklist - Form B
Bureau of Air Quality**



SUMMARY OF APPLICATION CONTENTS	
GENERAL APPLICATION CONTENTS - DOES THE APPLICATION PACKAGE INCLUDE...	
1. A Table of Contents?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
2. A list of all items for which a permit is being sought (Form C Information)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
3. A plot plan or map?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
4. A detailed drawing of the layout of the facility showing exhaust points and dimensions of each structure, including height, width, and length?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
5. A detailed facility-wide process description and flow diagram showing the relationship between each emission unit at the facility?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
6. A detailed process description and diagram for each emission unit at the facility?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
7. All reasonably anticipated operating scenarios?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
8. Are fugitive emissions included in Forms D, and F?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
9. Detailed calculations showing: (1) Uncontrolled emissions; (2) Control equipment efficiency; (3) Controlled emissions in pounds per hour and other applicable units, e. g. ppm or grains per cubic foot, if necessary, etc.; and (4) Allowable emissions, in the same terms as above?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
10. A request to utilize the operational flexibility provisions and include the information required for such use? (if applicable)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
11. A request for a permit shield? (Complete Form K)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
12. A completed listing of insignificant emission units, if applicable? (Complete Form G)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
13a. Modeling results for NAAQS, PSD Class II Increment and/or Air Toxics if this facility has not already demonstrated compliance with these Standards as applicable (S.C. Regulation 61-62.5, Standards 2, 7 and 8)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
13b. If #13a is yes, does the plot plan required by item #3 show stack locations and dimensions (length, width, and height) of buildings/structure?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
14. A completed compliance plan/schedule of compliance as requested in Form I?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
15. A completed compliance plan/schedule of compliance addendum for each of the non-complying emission units for which issuance of a Part 70 permit is requested?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
16. A completed compliance certification form? Complete Forms A and I.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
17. Acid rain portions of permit application and compliance plans, as required by regulations promulgated under Title IV of the Act (if applicable). (See EPA forms on EPA's web site http://www.epa.gov/airmarkets/forms/index.html#permits).	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
COPIES OF APPLICATION	
18a. Does the application contain confidential information? If yes, all confidential information should be submitted under separate cover.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
18b. Have two copies of the application suitable for public inspection and one copy with confidential information properly marked (if applicable) been submitted, in accordance with applicable regulations?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
19. Has the application been submitted to any other government agency (not required)? If so, who?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
20. Does the application include an electronic copy of the application? (Mandatory)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
21. Is the facility submitting a draft Title V permit with this application (optional)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
22. For any non-permitted emission sources or activities a separate construction permit application should not be included in this application. Please submit construction permit applications under a separate cover.	
REGULATORY INFORMATION REQUESTED	
23. Does the application include a proposed determination of maximum achievable control technology (MACT) for hazardous air pollutants pursuant to sections 112(g) and 112(j) of the Clean Air Act Amendments of 1990? (if applicable)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
24. Does the application include sufficient information regarding accidental releases pursuant to section 112(r) of the Clean Air Act Amendments of 1990? (if applicable)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
25. Does the application identify all applicable requirements including section 111 (NSPS) and/or Section 112 (NESHAP) of the Clean Air Act? (Form K)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
26. If applicable, is a Compliance Assurance Monitoring (CAM) Plan submitted with this Title V permit application (Form I and/or CAM Plan Supplemental Form)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
27. Does the application include an applicability determination for all sources subject to CAM (Form I)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
28. Is a Lowest Achievable Emission Rate (LAER)/ Best Available Control Technology (BACT) baseline and analysis included?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
28a. Is the facility subject to the NOx SIP call?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A

**Title V Permit Application
 Application Checklist - Form B
 Bureau of Air Quality**



WHY APPLICANT IS APPLYING FOR A TITLE V PERMIT? (CHECK ALL THAT APPLY)	
29a. The "potential to emit" of the facility is 100 tons/year or more for an individual regulated pollutant.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
29b. The facility is an affected facility for acid rain deposition.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
29c. The "potential to emit" for any one hazardous air pollutant is 10 tons/year or more, or the total of all hazardous air pollutants is 25 tons/year or more, or the facility meets an other applicable lower threshold required by a MACT Standard.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
29d. Other reason -(e.g. co-location) Please list:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
CONDITIONAL MAJOR REQUEST OR REGULATORY AVOIDANCE	
30. Are all controlled emissions of the facility below the applicability levels for Part 70 permit?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
31. Does the application propose limitations that will constrain the operation of the facility such that potential emissions of the facility will fall below applicability levels for Part 70 permits or MACT applicability?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
32. Is the facility requesting a MACT avoidance limit?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
33. Is the facility requesting a PSD/NSR avoidance (facility-wide)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
34. Is the facility requesting a BACT/LAER, SC Regulation 61-62.5, Standard 5.1 avoidance?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A



**Title V Permit Application
Emission Unit Equipment Information – Form C
Bureau of Air Quality**

Emission Unit Description				
1 Emission Unit ID	2 Emission Unit Description	19 Equipment ID	20 Equipment Description	3 Control Device
01	Train 1	PP1	Prepolymer #1	N/A
		RB	Blending/Mixing (Shared with Train 2)	N/A
		EGT	Ethylene Glycol Day Tank (Shared with Train 2)	N/A
		PC1	Polycon #1 (includes Spray Condenser)	N/A
		PC2	Polycon #2 (includes Spray Condenser)	N/A
		EGR1	Train 1 REG Receiver	N/A
		MER1	Train 1 MeOH Receiver	MEAC 02 After Condenser
		ICR1	Train 1 Intermediate Cut Receiver	N/A
		RGDT	Byproduct EG Day Tank (Shared with Train	MEAC 02 After Condenser
01A	Train 1 Steam Vents	PP1 SJ	PP1 Steam Jet Vent	N/A
		PC1 SJ	PC1 Steam Jet Vent	N/A
		PC2 SJ	PC2 Steam Jet Vent	N/A
02	Train 2	PP2	Esterification System #2	N/A
		PC3	Polycon #3 (includes Spray Condenser)	N/A
		PC4	Polycon #4 (includes Spray Condenser)	N/A
		EGR2	Train 2 REG Receiver	N/A
		MER2	Train 2 MeOH Receiver	MEAC 02 After Condenser
		ICR2	Train 2 Intermediate Cut Receiver	N/A
02A	Train 2 Steam Vents	PP2 SJ	PP2 Steam Jet Vent	MEAC 02 After Condenser
		PC3 SJ	PC3 Steam Jet Vent	N/A
		PC4 SJ	PC4 Steam Jet Vent	N/A
03	Vertical Ejector Towers	EJT1	Resin Train Cooling Tower	N/A
		EJT2	Vertical Ejector Tower 2	N/A
04	Resin Tank Farm	MEOH	Byproduct Methanol Tank	N/A
		VEGT	Virgin ET Tank	N/A
		REGT	Byproduct EG Tank	N/A
		DMTT	DMT Tank	N/A
05	Tanks and Virgin Silo	VSILO	Virgin Silo Airveying incl. Master Batch and Virgin Silos	N/A
		FOT1	Distillate Fuel Oil Tank	BH2 02 Baghouse
		FOT2	Distillate Fuel Oil Tank	N/A



Title V Permit Application
Emission Unit Equipment Information – Form C
Bureau of Air Quality

Emission Unit Description					
1 Emission Unit ID	2 Emission Unit Description	19 Equipment ID	20 Equipment Description	3 Control Device	
06	G1 Film Line	G1DT	G1 Dryer Tower	BH13	10 Baghouse
		G1XT	G1 Extruder	N/A	
		G1TN	G1 Tender	N/A	
		G1GR	G1 Grinder Airveying	BH7	04 Baghouse
		G1ET	G1 Edge Trimmer including Airveying	BH12	04 Baghouse
		QLS	QLS	N/A	
		DTOW1	G1 Dryer Airveying	BH13	10 Baghouse
07	G2 Film Line	G2DT	G2 Dryer Tower	BH5	10 Baghouse
		G2XT	G2 Extruder	N/A	
		G2GR	G2 Grinder including Airveying	BH6	05 Baghouse
		G2ET	G2 Edge Trim including Airveying	BH11	05 Baghouse
		G2PC	P Coater	N/A	
		G2GC	G Coater	N/A	
		G2C	C Oven	N/A	
08	Visual Converting Process	DTOW2	G2 Dryer Airveying	BH5	10 Baghouse
		CT01	Cut-to-size 1 with Collection Cyclone Separator 1	BH9	07 Baghouse
		CT02	Cut-to-size 2 with Collection Cyclone Separator 2	BH9	07 Baghouse
		VSET	VSET Edge	BH9	07 Baghouse
09	PET Reclaim Process	FSILO	Flake Silo including Airveying	BH4	08 Baghouse
		RBFG	PET Reclaim Fugitives	BH10	08 Baghouse
		RVAC	PET Reclaim Vacuum	BH10	08 Baghouse
		PTZR	Reclaim Pellitizers	N/A	
		RSILO	Reclaim Silo Airveying including Reclaim and other Virgin Silos	BH3	08 Baghouse
10	Box/Tote Material Handling	BTLU	Box/Tote Airveying	BH1	09 Baghouse
11	Steam Boiler #1	SB1	57.9 MMBtu/hr Steam Boiler #1	N/A	
12	Steam Boiler #2	SB2	41.4 MMBtu/hr Steam Boiler #2	N/A	
13	Born Oil Heater	BORN	18.0 MMBth/hr Born T-66 Oil heater	N/A	



**Title V Permit Application
Emission Unit Equipment Information – Form C
Bureau of Air Quality**

Emission Unit Description				
1 Emission Unit ID	2 Emission Unit Description	19 Equipment ID	20 Equipment Description	3 Control Device
14	Carotek Oil Heater	CARO	28.0 MMBtu/hr Carotek Oil Heater	N/A
		G3GC1	G3 Coater 1	N/A
		G3GC2	G3 Coater 2 (<i>Future</i>)	N/A
		G3C	G3 Oven	N/A
		G3ASP1	G3 Feed Hopper/Aspirator 1	BH15 Baghouse
		G3ASP2	G3 Feed Hopper/Aspirator 2	BH15 Baghouse
		G3XT1	G3 Extruder 1	N/A
		G3XT2	G3 Extruder 2	N/A
		G3XT3	G3 Extruder 3	N/A
		G3XT4	G3 Extruder 4	N/A
		G3D	G3 Pellet Dryer	BH15 Baghouse
		G3H1	G3 Resin Charging Hopper 1	BH15 Baghouse
		G3H2	G3 Resin Charging Hopper 2	BH15 Baghouse
		G3H3	G3 Resin Charging Hopper 3	BH15 Baghouse
		G3CW	G3 Die Casting Wheel	N/A
15	G3 Film Line	G3FSGR1	G3 Floor Scrap Grinder 1	BH14 Baghouse
		G3FSGR2	G3 Floor Scrap Grinder 2	BH14 Baghouse
		G3FSGR3	G3 Floor Scrap Grinder 3	BH14 Baghouse
		G3FSGR4	G3 Floor Scrap Grinder 4	BH14 Baghouse
		G3ETGR1	G3 Edge Trim Grinder 1	BH14 Baghouse
		G3ETGR2	G3 Edge Trim Grinder 2	BH14 Baghouse



**Title V Permit Application
Emission Unit Equipment Information – Form C
Bureau of Air Quality**

Emission Unit Description					
1 Emission Unit ID	2 Emission Unit Description	19 Equipment ID	20 Equipment Description	3 Control Device	
		G3ET	G3 Edge Trim Airveying	BH14	Baghouse
		G3FS	G3 Floor Scrap Airveying	BH14	Baghouse
		G3TL	G3 Flake Truck Loadout	BH14	Baghouse
		G3BL	G3 Flake Box Loadout	BH1	Baghouse
		G3FSILO1	Clear Flake Silo	N/A	
		G3FSILO2	Color Flake Silo	N/A	
		G3VSILO1	G3 Pellet Silo 1	BH15	Baghouse
		G3VSILO2	G3 Pellet Silo 2	BH15	Baghouse
		G3VSILO3	G3 Pellet Silo 3	BH15	Baghouse
		G3VSILO4	G3 Pellet Silo 4	BH15	Baghouse
		G3VSILO5	G3 Pellet Silo 5	BH15	Baghouse
		G3MRTK1	G3 Mix Room Tank 1	N/A	
		G3MRTK2	G3 Mix Room Tank 2	N/A	
		G3MRTK3	G3 Mix Room Tank 3	N/A	
		G3MRTK4	G3 Mix Room Tank 4	N/A	
		G3MRSC1	G3 Mix Room Storage 1	N/A	
		G3MRSC2	G3 Mix Room Storage 2	N/A	
		G3MRSC3	G3 Mix Room Storage 3	N/A	
		G3MRH1	G3 Mix Room Hood 1	N/A	
		G3MRH2	G3 Mix Room Hood 2	N/A	
		G3MRH3	G3 Mix Room Hood 3	N/A	



**Title V Permit Application
Emission Unit Equipment Information – Form C
Bureau of Air Quality**

Emission Unit Process Description						
1 Emission Unit ID	19 Equipment ID	4 Process Weight Rate (tons/hr)	5 Production Rate (units per time period)	6 Product	7 SIC/NAICS Code	8 Comments
01	PP1		lb/hr	PET		
	RB		lb/hr	PET		
	EGT		lb/hr	PET		
	PC1		lb/hr	PET		
	PC2		lb/hr	PET		
	EGR1		lb/hr	PET		
	MER1		lb/hr	PET		
	ICR1		lb/hr	PET		
	RGDT		lb/hr	PET		
01A	PP1 SJ		lb/hr	PET		
	PC1 SJ		lb/hr	PET		
	PC2 SJ		lb/hr	PET		
02	PP2		lb/hr	PET		
	PC3		lb/hr	PET		
	PC4		lb/hr	PET		
	EGR2		lb/hr	PET		
	MER2		lb/hr	PET		
	ICR2		lb/hr	PET		
02A	PP2 SJ		lb/hr	PET		
	PC3 SJ		lb/hr	PET		
	PC4 SJ		lb/hr	PET		
03	EJT1		lb/hr	PET		Train 1 & 2 combined
	EJT2		lb/hr	PET		Unit Removed
04	MEOH		lb/hr	Methanol		Train 1 & 2 combined
	VEGT		gal	Ethylene glycol		None.
	REGT		lb/hr	Ethylene glycol		Train 1 & 2 combined
	DMTT		ton/yr	None listed		None.
05	VSILO		lb/hr	PET		Train 1 & 2 combined
	FOT1		gal	Fuel oil		None.
	FOT2		gal	Fuel oil		None.



**Title V Permit Application
Emission Unit Equipment Information – Form C
Bureau of Air Quality**

Emission Unit Process Description						
1 Emission Unit ID	19 Equipment ID	4 Process Weight Rate (tons/hr)	5 Production Rate (units per time period)	6 Product	7 SIC/NAICS Code	8 Comments
06	G1DT		lb/hr	PET film		
	G1XT		lb/hr	PET film		None.
	G1TN		lb/hr	PET film		None.
	G1GR		lb/hr	PET film		None.
	G1ET		lb/hr	None listed		None.
	QLS		lb/hr	None listed		Unit Removed
	DTOW1		lb/hr	None listed		
07	G2DT		lb/hr	PET film		
	G2XT		lb/hr	PET film		None.
	G2GR		lb/hr	PET film		None.
	G2ET		lb/hr	PET film		None.
	G2PC		lb/hr	PET film		None.
	G2GC		lb/hr	PET film		None.
	G2C		lb/hr	PET film		None.
08	DTOW2		lb/hr	None listed		
	CT01		boxes/hr	None listed		None.
	CT02		boxes/hr	None listed		None.
09	VSET		lb/hr	PET film		None.
	FSILO		lb	PET pellets		None.
	RBFG		lb/hr	Polyester		None.
	RVAC		lb/hr	Polyester		Unit Removed
	PTZR		ton/yr	None listed		None.
	RSILO		lb/hr	PET pellets		None.
10	BTLU		lb/hr	PET pellets		None.
11	SB1		MMBtu/hr	Steam		None.
12	SB2		MMBtu/hr	Steam		None.
13	BORN		MMBtu/hr	Hot oil		None.



**Title V Permit Application
Emission Unit Equipment Information – Form C
Bureau of Air Quality**

Emission Unit Process Description						
1 Emission Unit ID	19 Equipment ID	4 Process Weight Rate (tons/hr)	5 Production Rate (units per time period)	6 Product	7 SIC/NAICS Code	8 Comments
14	CARO		MMBtu/hr	Hot oil		None.
	G3GC1		Gal/hr	Coating		None.
	G3GC2		TBD	TBD (Future)		Unit not yet constructed.
	G3C		N/A	N/A (Electric Oven)		None.
15	G3ASP1		lb/hr	Virgin & Reclaim PET		
	G3ASP2		lb/hr	Virgin & Reclaim PET		
	G3XT1		lb/hr	Virgin & Reclaim PET		
	G3XT2		lb/hr	Virgin & Reclaim PET		
	G3XT3		lb/hr	Virgin & Reclaim PET		
	G3XT4		lb/hr	Virgin & Reclaim PET		
	G3D		lb/hr	Virgin & Reclaim PET		
	G3H1		lb/hr	Virgin & Reclaim PET		
	G3H2		lb/hr	Virgin & Reclaim PET		
	G3H3		lb/hr	Virgin & Reclaim PET		
	G3CW		lb/hr	Virgin & Reclaim PET		
	G3FSGR1		lb/hr	Reclaim PET		
	G3FSGR2		lb/hr	Reclaim PET		
	G3FSGR3		lb/hr	Reclaim PET		
	G3FSGR4		lb/hr	Reclaim PET		
	G3ETGR1		lb/hr	Reclaim PET		
	G3ETGR2		lb/hr	Reclaim PET		



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Emission Unit Process Description						
1 Emission Unit ID	19 Equipment ID	4 Process Weight Rate (tons/hr)	5 Production Rate (units per time period)	6 Product	7 SIC/NAICS Code	8 Comments
	G3ET		lb/hr	Reclaim PET		
	G3FS		lb/hr	Reclaim PET		
	G3TL		lb/hr	Reclaim PET		
	G3BL		lb/hr	Reclaim PET		
	G3FSILO1		N/A	PET Flake		
	G3FSILO2		N/A	PET Flake		None.
	G3VSILO1		lb/hr	PET Pellets		None.
	G3VSILO2		lb/hr	PET Pellets		None.
	G3VSILO3		lb/hr	PET Pellets		None.
	G3VSILO4		lb/hr	PET Pellets		None.
	G3VSILO5		lb/hr	PET Pellets		None.
	G3MRTK1		Batches/hr	Solution Mixtures		
	G3MRTK2		Batches/hr	Solution Mixtures		
	G3MRTK3		Batches/hr	Solution Mixtures		
	G3MRTK4		Batches/hr	Solution Mixtures		
	G3MRSC1		Batches/hr	Solution Mixtures		
	G3MRSC2		Batches/hr	Solution Mixtures		
	G3MRSC3		Batches/hr	Solution Mixtures		
	G3MRH1		Batches/hr	Solution Mixtures		
	G3MRH2		Batches/hr	Solution Mixtures		
	G3MRH3		Batches/hr	Solution Mixtures		



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Control Device Information				
19 Equipment ID	3 Control Device ID	9 Control Device Description (Manufacturer, Name, Model #, etc.)	10 Installation Date (Modification)	11 Pollutants Controlled
PP1	N/A	N/A		
RB	N/A	N/A	N/A	N/A
EGT	N/A	N/A	N/A	N/A
PC1	N/A	N/A	N/A	N/A
PC2	N/A	N/A	N/A	N/A
EGR1	MEAC	02 After Condenser	N/A	N/A
MER1	N/A	N/A	1996	VOC
ICR1	MEAC	02 After Condenser	N/A	N/A
RGDT	MEAC	02 After Condenser	1996	VOC
PP1 SJ	N/A	N/A	1996	VOC
PC1 SJ	N/A	N/A	N/A	N/A
PC2 SJ	N/A	N/A	N/A	N/A
PP2	N/A	N/A	N/A	N/A
PC3	N/A	N/A	N/A	N/A
PC4	N/A	N/A	N/A	N/A
EGR2	MEAC	02 After Condenser	N/A	N/A
MER2	N/A	N/A	1996	VOC
ICR2	MEAC	02 After Condenser	N/A	N/A
PP2 SJ	N/A	N/A	1996	VOC
PC3 SJ	N/A	N/A	N/A	N/A
PC4 SJ	N/A	N/A	N/A	N/A
EJT1	N/A	N/A	N/A	N/A
EJT2	N/A	N/A	N/A	N/A
MEOH	N/A	N/A	N/A	N/A
VEGT	N/A	N/A	N/A	N/A
REGT	N/A	N/A	N/A	N/A
DMTT	N/A	N/A	N/A	N/A
VSILO	BH2	02 Baghouse	N/A	N/A
FOT1	N/A	N/A	1972	Particulates
FOT2	N/A	N/A	N/A	N/A
			N/A	N/A



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Control Device Information				
19 Equipment ID	3 Control Device ID	9 Control Device Description (Manufacturer, Name, Model #, etc.)	10 Installation Date (Modification)	11 Pollutants Controlled
G1DT	BH13	10 Baghouse	2006	Particulates
G1XT	N/A	N/A	N/A	N/A
G1TN	N/A	N/A	N/A	N/A
G1GR	BH7	04 Baghouse Chicago Conveyor Corp. 450-64-640	1982 (2002)	Particulates
G1ET	BH12	04 Baghouse	2006	Particulates
OLS	N/A	N/A	N/A	N/A
DTOW1	BH13	10 Baghouse	2006	Particulates
G2DT	BH5	10 Baghouse Seneca Environmental Products 121-1MTS-8	1972 (1982)	Particulates
G2XT	N/A	N/A		N/A
G2GR	BH6	05 Baghouse Chicago Conveyor Corp. 450-80-1000	1982 (2002)	Particulates
G2ET	BH11	05 Baghouse	2002	Particulates
G2PC	N/A	N/A	N/A	N/A
G2GC	N/A	N/A	N/A	N/A
G2C	N/A	N/A		N/A
DTOW2	BH5	10 Baghouse Seneca Environmental Products 121-1MTS-8	1972 (1982)	Particulates
CT01	BH9	07 Baghouse Steelcraft Model 10-554-6718	1997	Particulates
CT02	BH9	07 Baghouse	N/A	N/A
VSET	BH9	07 Baghouse Steelcraft Model 10-554-6718	1997	Particulates
FSILO	BH4	08 Baghouse Chicago Conveyor Corp. 450-72-810	1982	Particulates
RBFQ	BH10	08 Baghouse DCE PU304F10AD	1998	Particulates
RVAC	BH10	08 Baghouse DCE PU304F10AD	1998	Particulates
PTZR	N/A	N/A	N/A	N/A
RSILO	BH3	08 Baghouse Chicago Conveyor Corp. 450-48-360	1972	Particulates
BTLU	BH1	09 Baghouse Chicago Conveyor Corp. 45-72-810	1982	Particulates
SB1	N/A	N/A	N/A	N/A
SB2	N/A	N/A	N/A	N/A
BORN	N/A	N/A	N/A	N/A



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Control Device Information				
19 Equipment ID	3 Control Device ID	9 Control Device Description (Manufacturer, Name, Model #, etc.)	10 Installation Date (Modification)	11 Pollutants Controlled
CARO	N/A	N/A	N/A	N/A
G3GC1	N/A	N/A	N/A	N/A
G3GC2	N/A	N/A	N/A	N/A
G3C	N/A	N/A	N/A	N/A
G3ASP1	BH15	Baghouse	2008	Particulates
G3ASP2	BH15	Baghouse	2008	Particulates
G3XT1	N/A	N/A	N/A	N/A
G3XT2	N/A	N/A	N/A	N/A
G3XT3	N/A	N/A	N/A	N/A
G3XT4	N/A	N/A	N/A	N/A
G3D	BH15	Baghouse	2008	Particulates
G3H1	BH15	Baghouse	2008	Particulates
G3H2	BH15	Baghouse	2008	Particulates
G3H3	BH15	Baghouse	2008	Particulates
G3CW	N/A	N/A	N/A	N/A
G3FSGR1	BH14	Baghouse	2008	Particulates
G3FSGR2	BH14	Baghouse	2008	Particulates
G3FSGR3	BH14	Baghouse	2008	Particulates
G3FSGR4	BH14	Baghouse	2008	Particulates
G3ETGR1	BH14	Baghouse	2008	Particulates
G3ETGR2	BH14	Baghouse	2008	Particulates



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Control Device Information				
19 Equipment ID	3 Control Device ID	9 Control Device Description (Manufacturer, Name, Model #, etc.)	10 Installation Date (Modification)	11 Pollutants Controlled
G3ET	BH14	Baghouse	2008	Particulates
G3FS	BH14	Baghouse	2008	Particulates
G3TL	BH14	Baghouse	2008	Particulates
G3BL	BH1	Baghouse	2008	Particulates
G3FSILO1	N/A	N/A	N/A	N/A
G3FSILO2	N/A	N/A	N/A	N/A
G3VSILO1	BH15	Baghouse	2008	Particulates
G3VSILO2	BH15	Baghouse	2008	Particulates
G3VSILO3	BH15	Baghouse	2008	Particulates
G3VSILO4	BH15	Baghouse	2008	Particulates
G3VSILO5	BH15	Baghouse	2008	Particulates
G3MRTK1	N/A	N/A	2008	N/A
G3MRTK2	N/A	N/A	2008	N/A
G3MRTK3	N/A	N/A	2008	N/A
G3MRTK4	N/A	N/A	2008	N/A
G3MRSC1	N/A	N/A	2008	N/A
G3MRSC2	N/A	N/A	2008	N/A
G3MRSC3	N/A	N/A	2008	N/A
G3MRH1	N/A	N/A	2008	N/A
G3MRH2	N/A	N/A	2008	N/A
G3MRH3	N/A	N/A	2008	N/A



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Control Device Information (continued)								
19 Equipment ID	3 Control Device ID	12 Capture System	13 Capture (%)	14 Removal / Destruction (%)	15 Method used to Determine	16 Parameter Monitored	17 Exhaust ID	18 Comments
PP1	N/A	N/A	N/A	N/A	N/A	N/A	001E112	None.
RB	N/A	N/A	N/A	N/A	N/A	N/A	001E092	None.
EGT	N/A	N/A	N/A	N/A	N/A	N/A	001E096	None.
PC1	N/A	N/A	N/A	N/A	N/A	N/A	001E112	None.
PC2	N/A	N/A	N/A	N/A	N/A	N/A	001E112	None.
EGR1	MEAC	N/A	N/A	N/A	N/A	None.	001E112	Control installed voluntarily.
MER1	N/A	N/A	N/A	N/A	N/A	N/A	001E112	None.
ICR1	MEAC	N/A	N/A	N/A	N/A	None.	001E112	Control installed voluntarily.
RGDT	MEAC	N/A	N/A	N/A	N/A	None.	001E112	Control installed voluntarily.
PP1 SJ	N/A	N/A	N/A	N/A	N/A	None.	001E103	None.
PC1 SJ	N/A	N/A	N/A	N/A	N/A	None.	001E102	None.
PC2 SJ	N/A	N/A	N/A	N/A	N/A	None.	001E001	None.
PP2	N/A	N/A	N/A	N/A	N/A	N/A	001E112	None.
PC3	N/A	N/A	N/A	N/A	N/A	N/A	001E112	None.
PC4	N/A	N/A	N/A	N/A	N/A	N/A	001E112	None.
EGR2	MEAC	N/A	N/A	N/A	N/A	None.	001E112	Control installed voluntarily.
MER2	N/A	N/A	N/A	N/A	N/A	N/A	001E112	None.
ICR2	MEAC	N/A	N/A	N/A	N/A	None.	001E112	Control installed voluntarily.
PP2 SJ	N/A	N/A	N/A	N/A	N/A	None.	001E097	None.
PC3 SJ	N/A	N/A	N/A	N/A	N/A	None.	001E099	None.
PC4 SJ	N/A	N/A	N/A	N/A	N/A	None.	001E098	None.
EJT1	N/A	N/A	N/A	N/A	N/A	None.	888E003	None.
EJT2	N/A	N/A	N/A	N/A	N/A	None.	888E004	None.
MEOH	N/A	N/A	N/A	N/A	N/A	N/A	888E005	None.
VEGT	N/A	N/A	N/A	N/A	N/A	N/A	888E006	None.
REGT	N/A	N/A	N/A	N/A	N/A	N/A	888E007	None.
DMTT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.
VSIL0	BH2	Fabric Filter	100.00%	99.90%	Vendor	Pressure drop	888E001	None.
FOT1	N/A	N/A	N/A	N/A	N/A	N/A	888E008	None.
FOT2	N/A	N/A	N/A	N/A	N/A	N/A	888E009	None.



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Control Device Information (continued)								
19 Equipment ID	3 Control Device ID	12 Capture System	13 Capture (%)	14 Removal / Destruction (%)	15 Method used to Determine	16 Parameter Monitored	17 Exhaust ID	18 Comments
G1DT	BH13	Fabric Filter	100.00%	99.90%	Estimate	Pressure drop	888E039	None.
G1XT	N/A	N/A	N/A	N/A	N/A	N/A	001E057	None.
G1TN	N/A	N/A	N/A	N/A	N/A	N/A	001E002	None.
G1GR	BH7	Fabric Filter	100.00%	99.90%	Vendor	Pressure drop	007E005	None.
G1ET	BH12	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	888E038	None.
OLS	N/A	N/A	N/A	N/A	N/A	N/A	001E043	None.
DTOW1	BH13	Fabric Filter	100.00%	99.90%	Estimate	Pressure drop	888E039	None.
G2DT	BH5	Fabric Filter	100.00%	99.90%	Vendor	Pressure drop	007E008	None.
G2XT	N/A	N/A	N/A	N/A	N/A	N/A	007E073	None.
G2GR	BH6	Fabric Filter	100.00%	99.90%	Vendor	Pressure drop	007E007	None.
G2ET	BH11	Fabric Filter	100.00%	99.90%	Vendor	Pressure drop	007E006	None.
G2PC	N/A	N/A	N/A	N/A	N/A	N/A	007E003 007E004	None.
G2GC	N/A	N/A	N/A	N/A	N/A	N/A	007E001 007E002	None.
G2C	N/A	N/A	N/A	N/A	N/A	N/A	008E001	None.
DTOW2	BH5	Fabric Filter	100.00%	99.90%	Vendor	Pressure drop	007E008	None.
CT01	BH9	Fabric Filter	100.00%	99.90%	Vendor	Pressure drop	888E035	None.
CT02	BH9	N/A	N/A	N/A	N/A	N/A	888E035	None.
VSET	BH9	Fabric Filter	100.00%	99.90%	Vendor	Pressure drop	888E035	None.
FSILO	BH4	Fabric Filter	100.00%	99.90%	Vendor	Pressure drop	009E014	None.
RBFG	BH10	Fabric Filter	100.00%	99.00%	Vendor	Pressure drop	888E037	None.
RVAC	BH10	Fabric Filter	100.00%	99.00%	Vendor	Pressure drop	888E037	None.
PTZR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.
RSILO	BH3	Fabric Filter	100.00%	99.90%	Vendor	Pressure drop	888E002	None.
BTLU	BH1	Fabric Filter	100.00%	99.90%	Vendor	Pressure drop	009E015	None.
SB1	N/A	N/A	N/A	N/A	N/A	N/A	003E001	None.
SB2	N/A	N/A	N/A	N/A	N/A	N/A	003E002	None.
BORN	N/A	N/A	N/A	N/A	N/A	N/A	003E003	None.



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Control Device Information (continued)								
19 Equipment ID	3 Control Device ID	12 Capture System	13 Capture (%)	14 Removal / Destruction (%)	15 Method used to Determine	16 Parameter Monitored	17 Exhaust ID	18 Comments
CARO	N/A	N/A	N/A	N/A	N/A	N/A	003E004	None.
G3GC1	N/A	N/A	N/A	N/A	N/A	N/A	026E005	None.
G3GC2	N/A	N/A	N/A	N/A	N/A	N/A	026E019	None.
G3C	N/A	N/A	N/A	N/A	N/A	N/A	026E010 026E011 026E012 026E013 026E014 026E015 026E016 026E027 026E028	None.
G3ASP1	BH15	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026E007	None.
G3ASP2	BH15	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026E007	None.
G3XT1	N/A	N/A	N/A	N/A	N/A	N/A	026E007	None.
G3XT2	N/A	N/A	N/A	N/A	N/A	N/A	026E007	None.
G3XT3	N/A	N/A	N/A	N/A	N/A	N/A	026E007	None.
G3XT4	N/A	N/A	N/A	N/A	N/A	N/A	026E007	None.
G3D	BH15	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026E007	None.
G3H1	BH15	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026E007	None.
G3H2	BH15	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026E007	None.
G3H3	BH15	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026E007	None.
G3CW	N/A	N/A	N/A	N/A	N/A	N/A	026E021 026E023	None.
G3FSGR1	BH14	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026E006	None.
G3FSGR2	BH14	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026E006	None.
G3FSGR3	BH14	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026E006	None.
G3FSGR4	BH14	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026E006	None.
G3ETGR1	BH14	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026E006	None.
G3ETGR2	BH14	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026E006	None.



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Control Device Information (continued)								
19 Equipment ID	3 Control Device ID	12 Capture System	13 Capture (%)	14 Removal / Destruction (%)	15 Method used to Determine	16 Parameter Monitored	17 Exhaust ID	18 Comments
G3ET	BH14	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026E006	None.
G3FS	BH14	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026E006	None.
G3TL	BH14	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026E006	None.
G3BL	BH1	Fabric Filter	100.00%	99.90%	Estimate	Pressure drop	009E015	None.
G3FSILO1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.
G3FSILO2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.
G3VSILO1	BH15	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026H007	None.
G3VSILO2	BH15	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026H007	None.
G3VSILO3	BH15	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026H007	None.
G3VSILO4	BH15	Fabric Filter	100.00%	99.00%	Estimate	Pressure drop	026H007	None.
G3VSILO5	BH15	Fabric Filter	100.00%	99.00%	Estimate	N/A	026H007	None.
G3MRTK1	N/A	N/A	N/A	N/A	N/A	N/A	026E0030	None.
G3MRTK2	N/A	N/A	N/A	N/A	N/A	N/A	026E0030	None.
G3MRTK3	N/A	N/A	N/A	N/A	N/A	N/A	026E0030	None.
G3MRTK4	N/A	N/A	N/A	N/A	N/A	N/A	026E0030	None.
G3MRSC1	N/A	N/A	N/A	N/A	N/A	N/A	026E0030	None.
G3MRSC2	N/A	N/A	N/A	N/A	N/A	N/A	026E0030	None.
G3MRSC3	N/A	N/A	N/A	N/A	N/A	N/A	026E0030	None.
G3MRH1	N/A	N/A	N/A	N/A	N/A	N/A	026E0030	None.
G3MRH2	N/A	N/A	N/A	N/A	N/A	N/A	026E0030	None.
G3MRH3	N/A	N/A	N/A	N/A	N/A	N/A	026E0030	None.



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Equipment Description							
1 Emission Unit ID	19 Equipment ID	20 Equipment Description	21 Installation Date (modification)	22 Mod. Description	3 Control Device ID	17 Exhaust ID	23 Design Capacity (units)
01	PP1	Prepolymer #1	1972 (1994)	Unavailable	N/A	001E112	
	RB	Blending/Mixing (Shared with Train 2)	1972 (N/A)	N/A	N/A	001E092	
	EGT	Ethylene Glycol Day Tank (Shared with Train 2)	1972 (1982)	Unavailable	N/A	001E096	
	PC1	Polycon #1 (includes Spray Condenser)	1972 (1994)	Unavailable	N/A	001E112	
	PC2	Polycon #2 (includes Spray Condenser)	1972 (1994)	Unavailable	N/A	001E112	
	EGR1	Train 1 REG Receiver	1983 (N/A)	N/A	MEAC	001E112	
	MER1	Train 1 MeOH Receiver	1983 (N/A)	N/A	N/A	001E112	
	ICR1	Train 1 Intermediate Cut Receiver	1990 (N/A)	N/A	MEAC	001E112	
	RGDT	Byproduct EG Day Tank (Shard with Train 2)	1994 (N/A)	N/A	MEAC	001E112	
01A	PP1 SJ	PP1 Steam Jet Vent	1972 (N/A)	N/A	N/A	001E103	
	PC1 SJ	PC1 Steam Jet Vent	1972 (N/A)	N/A	N/A	001E102	
	PC2 SJ	PC2 Steam Jet Vent	1972 (N/A)	N/A	N/A	001E001	
02	PP2	Esterification System #2	1972 (1994)	Unavailable	N/A	001E112	
	PC3	Polycon #3 (includes Spray Condenser)	1972 (1994)	Unavailable	N/A	001E112	
	PC4	Polycon #4 (includes Spray Condenser)	1972 (1994)	Unavailable	N/A	001E112	
	EGR2	Train 2 REG Receiver	1983 (N/A)	N/A	MEAC	001E112	
	MER2	Train 2 MeOH Receiver	1983 (N/A)	N/A	N/A	001E112	
	ICR2	Train 2 Intermediate Cut Receiver	1990 (N/A)	N/A	MEAC	001E112	
02A	PP2 SJ	PP2 Steam Jet Vent	1972 (N/A)	N/A	N/A	001E097	
	PC3 SJ	PC3 Steam Jet Vent	1972 (N/A)	N/A	N/A	001E099	
	PC4 SJ	PC4 Steam Jet Vent	1972 (N/A)	N/A	N/A	001E098	
03	EJT1	Resin Train Cooling Tower	1972 (1982)	Unavailable	N/A	888E003	
	EJT2	Vertical Ejector Tower 2	1995 (N/A)	N/A	N/A	888E004	
04	MEOH	Byproduct Methanol Tank	1972 (N/A)	N/A	N/A	888E005	
	VEGT	Virgin ET Tank	1972 (N/A)	N/A	N/A	888E006	
	REGT	Byproduct EG Tank	1972 (N/A)	N/A	N/A	888E007	
	DMTT	DMT Tank	1994 (N/A)	N/A	N/A	N/A	
05	VSILO	Virgin Silo Airveying incl. Master Batch and Virg	1972 (1982)	Unavailable	BH2	888E001	
	FOT1	Distillate Fuel Oil Tank	1980 (N/A)	N/A	N/A	888E008	
	FOT2	Distillate Fuel Oil Tank	1972 (N/A)	N/A	N/A	888E009	



**Title V Permit Application
Emission Unit Equipment Information – Form C
Bureau of Air Quality**

Equipment Description							
1 Emission Unit ID	19 Equipment ID	20 Equipment Description	21 Installation Date (modification)	22 Mod. Description	3 Control Device ID	17 Exhaust ID	23 Design Capacity (units)
06	G1DT	G1 Dryer Tower	1972 (N/A)	N/A	BH13	888E039	
	G1XT	G1 Extruder	1972 (N/A)	N/A	N/A	001E057	
	G1TN	G1 Tender	1972 (N/A)	N/A	N/A	001E002	
	G1GR	G1 Grinder Airveying	1972 (N/A)	N/A	BH7	007E005	
	G1ET	G1 Edge Trimmer including Airveying	1972 (N/A)	N/A	BH12	888E038	
	OLS	OLS	1972 (N/A)	N/A	N/A	001E043	
	DTOW1	G1 Dryer Airveying	2006 (N/A)	N/A	BH13	888E039	
07	G2DT	G2 Dryer Tower	1982 (N/A)	N/A	BH5	007E008	
	G2XT	G2 Extruder	1982 (N/A)	N/A	N/A	007E073	
	G2GR	G2 Grinder including Airveying	1982 (2002)	Unavailable	BH6	007E007	
	G2ET	G2 Edge Trim including Airveying	1982 (2002)	Unavailable	BH11	007E006	
	G2PC	P Coater	1982 (N/A)	N/A	N/A	007E003	
						007E004	
	G2GC	G Coater	1982 (N/A)	N/A	N/A	007E001	
	G2C	C Oven	1982 (N/A)	N/A	N/A	008E001	
08	DTOW2	G2 Dryer Airveying	1972 (1982)	Unavailable	N/A	007E008	
	CT01	Cut-to-size 1 with Collection Cyclone Separator	1994 (N/A)	N/A	BH5	888E035	
	CT02	Cut-to-size 2 with Collection Cyclone Separator	1994 (N/A)	N/A	BH9	888E035	
	VSET	VSET Edge	1996 (N/A)	N/A	BH9	888E035	
09	FSILO	Flake Silo including Airveying	1972 (1982)	Unavailable	BH4	009E014	
	RBFQ	PET Reclaim Fugitives	1998 (N/A)	N/A	BH10	888E037	
	RVAC	PET Reclaim Vacuum	1998 (N/A)	N/A	BH10	888E037	
	PTZR	Reclaim Pellitizers	1972 (N/A)	N/A	N/A	N/A	
	RSILO	Reclaim Silo Airveying including Reclaim and other Virgin Silos	1972 (1982)	Unavailable	BH3	888E002	
10	BTLU	Box/Tote Airveying	1972 (1982)	Unavailable	BH1	009E015	
11	SB1	57.9 MMBtu/hr Steam Boiler #1	1972 (2003)	Unavailable	N/A	003E001	
12	SB2	41.4 MMBtu/hr Steam Boiler #2	1980 (2003)	Unavailable	N/A	003E002	
13	BORN	18.0 MMBth/hr Born T-66 Oil heater	1972 (2001)	Unavailable	N/A	003E003	



**Title V Permit Application
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Bureau of Air Quality**

Equipment Description							
1 Emission Unit ID	19 Equipment ID	20 Equipment Description	21 Installation Date (modification)	22 Mod. Description	3 Control Device ID	17 Exhaust ID	23 Design Capacity (units)
14	CARO	28.0 MMBtu/hr Carotek Oil Heater	1982 (2001)	Unavailable	N/A	003E004	
	G3GC1	G3 Coater 1	2008 (N/A)	N/A	N/A	026E005	
15	G3GC2	G3 Coater 2 (Future)	TBD (N/A)	N/A	N/A	026E019	
	G3C	G3 Oven	2008 (N/A)	N/A	N/A	026E010	
						026E011	
						026E012	
						026E013	
						026E014	
						026E015	
						026E016	
						026E027	
						026E028	
	G3ASP1	G3 Feed Hopper/Aspirator 1	2008 (N/A)	N/A	BH15	026E007	
	G3ASP2	G3 Feed Hopper/Aspirator 2	2008 (N/A)	N/A	BH15	026E007	
	G3XT1	G3 Extruder 1	2008 (N/A)	N/A	N/A	026E007	
	G3XT2	G3 Extruder 2	2008 (N/A)	N/A	N/A	026E007	
	G3XT3	G3 Extruder 3	2008 (N/A)	N/A	N/A	026E007	
	G3XT4	G3 Extruder 4	2008 (N/A)	N/A	N/A	026E007	
	G3D	G3 Pellet Dryer	2008 (N/A)	N/A	BH15	026E007	
	G3H1	G3 Resin Charging Hopper 1	2008 (N/A)	N/A	BH15	026E007	
	G3H2	G3 Resin Charging Hopper 2	2008 (N/A)	N/A	BH15	026E007	
	G3H3	G3 Resin Charging Hopper 3	2008 (N/A)	N/A	BH15	026E007	
	G3CW	G3 Die Casting Wheel	2008 (N/A)	N/A	N/A	026E021	
						026E023	
	G3FSGR1	G3 Floor Scrap Grinder 1	2008 (N/A)	N/A	BH14	026E006	
	G3FSGR2	G3 Floor Scrap Grinder 2	2008 (N/A)	N/A	BH14	026E006	
	G3FSGR3	G3 Floor Scrap Grinder 3	2008 (N/A)	N/A	BH14	026E006	
	G3FSGR4	G3 Floor Scrap Grinder 4	2008 (N/A)	N/A	BH14	026E006	
	G3ETGR1	G3 Edge Trim Grinder 1	2008 (N/A)	N/A	BH14	026E006	
	G3ETGR2	G3 Edge Trim Grinder 2	2008 (N/A)	N/A	BH14	026E006	



**Title V Permit Application
Emission Unit Equipment Information – Form C
Bureau of Air Quality**

Equipment Description							
1 Emission Unit ID	19 Equipment ID	20 Equipment Description	21 Installation Date (modification)	22 Mod. Description	3 Control Device ID	17 Exhaust ID	23 Design Capacity (units)
	G3ET	G3 Edge Trim Airveying	2008 (N/A)	N/A	BH14	026E006	
	G3FS	G3 Floor Scrap Airveying	2008 (N/A)	N/A	BH14	026E006	
	G3TL	G3 Flake Truck Loadout	2008 (N/A)	N/A	BH14	026E006	
	G3BL	G3 Flake Box Loadout	2008 (N/A)	N/A	BH1	009E015	
	G3FSILO1	Clear Flake Silo	2008 (N/A)	N/A	N/A	N/A	
	G3FSILO2	Color Flake Silo	2008 (N/A)	N/A	N/A	N/A	
	G3VSILO1	G3 Pellet Silo 1	2008 (N/A)	N/A	BH15	026H007	
	G3VSILO2	G3 Pellet Silo 2	2008 (N/A)	N/A	BH15	026H007	
	G3VSILO3	G3 Pellet Silo 3	2008 (N/A)	N/A	BH15	026H007	
	G3VSILO4	G3 Pellet Silo 4	2008 (N/A)	N/A	BH15	026H007	
	G3VSILO5	G3 Pellet Silo 5	2008 (N/A)	N/A	BH15	026H007	
	G3MRTK1	G3 Mix Room Tank 1	2008 (N/A)	N/A	N/A	026E0030	
	G3MRTK2	G3 Mix Room Tank 2	2008 (N/A)	N/A	N/A	026E0030	
	G3MRTK3	G3 Mix Room Tank 3	2008 (N/A)	N/A	N/A	026E0030	
	G3MRTK4	G3 Mix Room Tank 4	2008 (N/A)	N/A	N/A	026E0030	
	G3MRSC1	G3 Mix Room Storage 1	2008 (N/A)	N/A	N/A	026E0030	
	G3MRSC2	G3 Mix Room Storage 2	2008 (N/A)	N/A	N/A	026E0030	
	G3MRSC3	G3 Mix Room Storage 3	2008 (N/A)	N/A	N/A	026E0030	
	G3MRH1	G3 Mix Room Hood 1	2008 (N/A)	N/A	N/A	026E0030	
	G3MRH2	G3 Mix Room Hood 2	2008 (N/A)	N/A	N/A	026E0030	
	G3MRH3	G3 Mix Room Hood 3	2008 (N/A)	N/A	N/A	026E0030	



**Title V Permit Application
Emission Unit Equipment Information – Form C
Bureau of Air Quality**

Equipment Description				
19 Equipment ID	24 Primary Fuel Combusted (if applicable)	25 Secondary Fuel Combusted (if applicable)	26 Construction Permit ID or Exemption Date	27 Comments
PP1	N/A	N/A	N/A	N/A
RB	N/A	N/A	N/A	N/A
EGT	N/A	N/A	N/A	N/A
PC1	N/A	N/A	N/A	N/A
PC2	N/A	N/A	N/A	N/A
EGR1	N/A	N/A	N/A	N/A
MER1	N/A	N/A	N/A	N/A
ICR1	N/A	N/A	N/A	N/A
RGDT	N/A	N/A	N/A	N/A
PP1 SJ	N/A	N/A	N/A	N/A
PC1 SJ	N/A	N/A	N/A	N/A
PC2 SJ	N/A	N/A	N/A	N/A
PP2	N/A	N/A	N/A	N/A
PC3	N/A	N/A	N/A	N/A
PC4	N/A	N/A	N/A	N/A
EGR2	N/A	N/A	N/A	N/A
MER2	N/A	N/A	N/A	N/A
ICR2	N/A	N/A	N/A	N/A
PP2 SJ	N/A	N/A	N/A	N/A
PC3 SJ	N/A	N/A	N/A	N/A
PC4 SJ	N/A	N/A	N/A	N/A
EJT1	N/A	N/A	N/A	N/A
EJT2	N/A	N/A	N/A	N/A
MEOH	N/A	N/A	N/A	N/A
VEGT	N/A	N/A	N/A	N/A
REGT	N/A	N/A	N/A	N/A
DMTT	N/A	N/A	N/A	N/A
VSIL0	N/A	N/A	N/A	N/A
FOT1	N/A	N/A	N/A	N/A
FOT2	N/A	N/A	N/A	N/A



**Title V Permit Application
Emission Unit Equipment Information – Form C
Bureau of Air Quality**

Equipment Description				
19 Equipment ID	24 Primary Fuel Combusted (if applicable)	25 Secondary Fuel Combusted (if applicable)	26 Construction Permit ID or Exemption Date	27 Comments
G1DT	N/A	N/A	N/A	N/A
G1XT	N/A	N/A	N/A	N/A
G1TN	N/A	N/A	N/A	N/A
G1GR	N/A	N/A	N/A	N/A
G1ET	N/A	N/A	N/A	N/A
QLS	N/A	N/A	N/A	N/A
DTOW1	N/A	N/A	N/A	N/A
G2DT	N/A	N/A	N/A	N/A
G2XT	N/A	N/A	N/A	N/A
G2GR	N/A	N/A	N/A	N/A
G2ET	N/A	N/A	N/A	N/A
G2PC	N/A	N/A	N/A	N/A
G2GC	N/A	N/A	N/A	N/A
G2C	N/A	N/A	N/A	N/A
DTOW2	N/A	N/A	N/A	N/A
CT01	N/A	N/A	N/A	N/A
CT02	N/A	N/A	N/A	N/A
VSET	N/A	N/A	N/A	N/A
FSILO	N/A	N/A	N/A	N/A
RBFG	N/A	N/A	N/A	N/A
RVAC	N/A	N/A	N/A	N/A
PTZR	N/A	N/A	N/A	N/A
RSILO	N/A	N/A	N/A	N/A
BTLU	N/A	N/A	N/A	N/A
SB1	Natural Gas	No. 2 Fuel Oil	N/A	No Comments
SB2	Natural Gas	No. 2 Fuel Oil	N/A	No Comments
BORN	Natural Gas	No. 2 Fuel Oil	N/A	No Comments



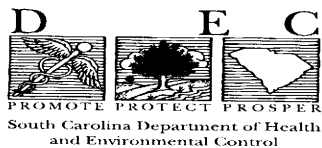
**Title V Permit Application
Emission Unit Equipment Information – Form C
Bureau of Air Quality**

Equipment Description				
19 Equipment ID	24 Primary Fuel Combusted (if applicable)	25 Secondary Fuel Combusted (if applicable)	26 Construction Permit ID or Exemption Date	27 Comments
CARO	Natural Gas	No. 2 Fuel Oil	N/A	<i>Fuel oil limit of 1,098,950 gal/yr</i>
G3GC1	N/A	N/A	N/A	N/A
G3GC2	N/A	N/A	N/A	N/A
G3C	N/A	N/A	N/A	N/A
G3ASP1	N/A	N/A	N/A	N/A
G3ASP2	N/A	N/A	N/A	N/A
G3XT1	N/A	N/A	N/A	N/A
G3XT2	N/A	N/A	N/A	N/A
G3XT3	N/A	N/A	N/A	N/A
G3XT4	N/A	N/A	N/A	N/A
G3D	N/A	N/A	N/A	N/A
G3H1	N/A	N/A	N/A	N/A
G3H2	N/A	N/A	N/A	N/A
G3H3	N/A	N/A	N/A	N/A
G3CW	N/A	N/A	N/A	N/A
G3FSGR1	N/A	N/A	N/A	N/A
G3FSGR2	N/A	N/A	N/A	N/A
G3FSGR3	N/A	N/A	N/A	N/A
G3FSGR4	N/A	N/A	N/A	N/A
G3ETGR1	N/A	N/A	N/A	N/A
G3ETGR2	N/A	N/A	N/A	N/A



**Title V Permit Application
Emission Unit Equipment Information – Form C
Bureau of Air Quality**

Equipment Description				
19 Equipment ID	24 Primary Fuel Combusted (if applicable)	25 Secondary Fuel Combusted (if applicable)	26 Construction Permit ID or Exemption Date	27 Comments
G3ET	N/A	N/A	N/A	N/A
G3FS	N/A	N/A	N/A	N/A
G3TL	N/A	N/A	N/A	N/A
G3BL	N/A	N/A	N/A	N/A
G3FSILO1	N/A	N/A	N/A	N/A
G3FSILO2	N/A	N/A	N/A	N/A
G3VSILO1	N/A	N/A	N/A	N/A
G3VSILO2	N/A	N/A	N/A	N/A
G3VSILO3	N/A	N/A	N/A	N/A
G3VSILO4	N/A	N/A	N/A	N/A
G3VSILO5	N/A	N/A	N/A	N/A
G3MRTK1	N/A	N/A	N/A	N/A
G3MRTK2	N/A	N/A	N/A	N/A
G3MRTK3	N/A	N/A	N/A	N/A
G3MRTK4	N/A	N/A	N/A	N/A
G3MRSC1	N/A	N/A	N/A	N/A
G3MRSC2	N/A	N/A	N/A	N/A
G3MRSC3	N/A	N/A	N/A	N/A
G3MRH1	N/A	N/A	N/A	N/A
G3MRH2	N/A	N/A	N/A	N/A
G3MRH3	N/A	N/A	N/A	N/A

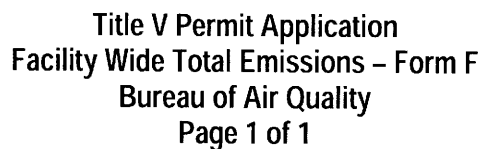


Title V Permit Application
Emission Data for Regulated Pollutants – Form D
Bureau of Air Quality
 Page 1 of 1

Please Refer to Instruction / Definitions Pages Before Completing This Form

1. Emission Unit ID: (If the emission unit is on the Insignificant Activity List proceed to Forms G & F)	2. Exhaust Point ID (if applicable)	3. Pollutant:	4. CAS Number (if applicable):	5. Type of Pollutant:	6. Maximum Uncontrolled		7. Maximum Controlled	
					(lb/hr)	(TPY)	(lb/hr)	(TPY)
PLEASE REFER TO APPENDIX B FOR EMISSIONS CALCULATIONS								

1. Emission Unit ID:	2. Exhaust Point ID (if applicable)	3. Pollutant:	8. Estimation Method:	9. Comments:
PLEASE REFER TO APPENDIX B FOR EMISSIONS CALCULATIONS				

[illegible]

**Title V Permit Application
Insignificant Activity Equipment- Form G
Bureau of Air Quality**

Please Refer to Instruction / Definitions Pages Before Completing This Form

1. Insignificant Activity(IA) Unit ID:	2. Insignificant Activity Unit ID Description	3. Construction Permit ID or Approval Date (if applicable):	4. On SC Insignificant Activity List (Yes or No)	5. Pollutant(s)	6. Emission Rate (Uncontrolled)	7. Deminimis Rate
FCWS	Filter Wash Station	<i>UNIT ALREADY EXISTS AS AN INSIGNIFICANT ACTIVITY; SEE CURRENT PERMIT</i>				
TEG1	Triethylene Glycol (TEG) Wash Tank - West	<i>UNIT ALREADY EXISTS AS AN INSIGNIFICANT ACTIVITY; SEE CURRENT PERMIT</i>				
TEG2	TEG Wash Tank – East	<i>UNIT ALREADY EXISTS AS AN INSIGNIFICANT ACTIVITY; SEE CURRENT PERMIT</i>				
VTEG	Vigin TEG Tank	<i>UNIT ALREADY EXISTS AS AN INSIGNIFICANT ACTIVITY; SEE CURRENT PERMIT</i>				
RTEG	Recovered TEG Tank	<i>UNIT ALREADY EXISTS AS AN INSIGNIFICANT ACTIVITY; SEE CURRENT PERMIT</i>				
DT01	275 Gallon Diesel Tank	<i>UNIT ALREADY EXISTS AS AN INSIGNIFICANT ACTIVITY; SEE CURRENT PERMIT</i>				
GEN1	Cumming Power Main Building Backup Generator (Propane Fueled)	<i>UNIT ALREADY EXISTS AS AN INSIGNIFICANT ACTIVITY; SEE CURRENT PERMIT</i>				
GEN2	Cummins Power Fire Pump Generator (Diesel Fueled)	<i>UNIT ALREADY EXISTS AS AN INSIGNIFICANT ACTIVITY; SEE CURRENT PERMIT</i>				
G1G2MT	G1 & G2 Line Shared Mix Tanks	Unknown	No	VOCs, HAPs	< 5 tpy	



**Title V Permit Application
Stack/Vent Information – Form H
Bureau of Air Quality**

Stack/Vent Information								
1. Exhaust Point ID	2. Emission/ Equipment ID	3. Pollutant	4. CAS No.	5. Date last modeled	6. Modeled Emission Rates (lb/hr)	7. Stack Gas Exit Temp (degrees F)	8. Stack Gas Exhaust Velocity (ft/sec)	9. Non-Vertical Discharge (H) or Raincap (R)
001E002	G1TN	VOC, HAP	N/A	See Appendix F		266.0	23.27	U
001E043	QLS	Equipment Removed	---	See Appendix F		---	---	---
001E057	G1XT	VOC	Multiple	See Appendix F		Ambient	23.27	D
001E092	RB	Equipment Removed	---	See Appendix F		---	---	---
001E096	EGT	VOC, HAP	Multiple	See Appendix F		NOT LISTED	NOT LISTED	NOT LISTED
001E097	PP2SJ	VOC, HAP	Multiple	See Appendix F		195.0	21.23	H (East)
001E098	PC3SJ	VOC, HAP	Multiple	See Appendix F		210.0	45.92	U
001E099	PC4SJ	VOC, HAP	Multiple	See Appendix F		210.0	21.23	H (East)
001E101	PP1SJ	VOC, HAP	Multiple	See Appendix F		198.0	21.23	H (East)
001E102	PC1SJ	VOC, HAP	Multiple	See Appendix F		195.0	45.92	U
001E103	PC2SJ	VOC, HAP	Multiple	See Appendix F		195.0	21.23	H (East)
001E112	Train 1 & 2	VOC, HAP	Multiple	See Appendix F		99.0	9.40	Down
003E001	SB1	Combustion byproducts	Multiple	See Appendix F		550.0	25.30	U
003E002	SB2	Combustion byproducts	Multiple	See Appendix F		550.0	10.18	U
003E003	BORN	Combustion byproducts	Multiple	See Appendix F		700.0	8.13	U
003E004	CARO	Combustion byproducts	Multiple	See Appendix F		635.0	12.65	U
'007E001	G2GC	VOC	N/A	See Appendix F		135.0	39.38	Down
007E002		VOC	N/A	See Appendix F		135.0	41.58	Down
'007E003	G2PC	VOC	N/A	See Appendix F		138.0	83.33	Down
007E004		VOC	N/A	See Appendix F		132.0	45.23	Down
007E005	G1GR	PM	N/A	See Appendix F		98.0	43.80	Down
007E006	G2ET	PM	N/A	See Appendix F		Ambient	43.80	Down
007E007	G2GR	PM	N/A	See Appendix F		70	39.17	Down
007E008	G2DT	PM	N/A	See Appendix F		100	51.45	H (South)
007E073	G2XT	VOC	N/A	See Appendix F		70	3.42	H (East)
008E001	G2C	None - Heat Only	---	See Appendix F		288	26.00	Down
009E014	FSILO	PM	N/A	See Appendix F		Ambient	130.23	U
009E015	BTLU	PM	N/A	See Appendix F		Ambient	79.60	U
026E005	G3GC1	None - See 026E010	---	See Appendix F		70	33.29	U
026E006	BH14	PM	N/A	See Appendix F		70	70.70	U
026E007	BH15	PM	N/A	See Appendix F		70	59.70	U
026E010	G3C	VOC, HAP	Multiple	See Appendix F		250	33.78	U
026E011		VOC, HAP	Multiple	See Appendix F		250	33.78	U
026E012		VOC, HAP	Multiple	See Appendix F		400	35.10	U
026E013		VOC, HAP	Multiple	See Appendix F		450	33.70	U
026E014		VOC, HAP	Multiple	See Appendix F		400	35.10	U
026E015		VOC, HAP	Multiple	See Appendix F		250	33.80	U
026E016		VOC, HAP	Multiple	See Appendix F		140	33.20	U
026E019	G3GC2	N/A - Not Installed	---	See Appendix F		---	---	---
'026E021	G3CW	PM	N/A	See Appendix F		120	33.50	U
026E023		PM	N/A	See Appendix F		80	35.80	U
026E027	G3C	VOC, HAP	Multiple	See Appendix F		450	33.78	U
026E028		VOC, HAP	Multiple	See Appendix F		400	33.78	U
026E0030	G3 Mix Rm.	VOC, HAP	Multiple	See Appendix F		N/A	N/A	U
888E001	VSILO	PM	N/A	See Appendix F		Ambient	32.17	Down
888E002	BH3	PM	N/A	See Appendix F		Ambient	68.70	Down
888E003	EJT1	VOC, HAP	Multiple	See Appendix F		85	16.67	U
888E004	EJT2	Equipment Removed	---	See Appendix F		---	---	---
888E005	MEOH	VOC, HAP	Multiple	See Appendix F		Ambient	0.00	H
888E006	VEGT	VOC, HAP	Multiple	See Appendix F		Ambient	0.00	H
888E007	REGT	VOC, HAP	Multiple	See Appendix F		Ambient	0.00	D
888E008	FOT1	VOC	N/A	See Appendix F		Ambient	0.00	U
888E009	FOT2	VOC	N/A	See Appendix F		Ambient	0.00	U
888E035	BH9	PM	N/A	See Appendix F		Ambient	22.00	H
888E037	BH10	PM	N/A	See Appendix F		Ambient	47.00	U
888E038	BH12	PM	N/A	See Appendix F		80	48.94	NOT LISTED
888E039	BH13	PM	N/A	See Appendix F		72	30.00	NOT LISTED



**Title V Permit Application
Stack/Vent Information – Form H
Bureau of Air Quality**

1. Exhaust Point ID	Stack/Vent Information								
	10. Vertical component of Stack Exhaust Velocity (ft/sec)	11. UTM East*	12. UTM North*	13. Distance to Plant Boundary (ft)	14. Dimensions of Plume Obstructing Structure (ft)			15. Stack Height (ft)	16. Stack Diameter (ft)
					Height	Length	Width		
001E002	23.27	375,414.48	3,845,937.03	584	96.3	65.6	65.6	51.10	1.42
001E043	---	---	---	---	---	---	---	---	---
001E057	0.00	375,393.00	3,846,020.00	574	96.3	59.1	59.1	66.32	30.12
001E092	---	---	---	---	---	---	---	---	---
001E096	NOT LISTED	NOT LISTED	NOT LISTED	NOT LISTED	NOT LISTED	NOT LISTED	NOT LISTED	NOT LISTED	NOT LISTED
001E097	0.00	375,437.54	3,845,860.68	610	104.0	68.9	68.9	101.42	0.25
001E098	45.92	375,434.69	3,845,861.54	600	104.0	68.9	68.9	98.33	0.17
001E099	0.00	375,435.99	3,845,864.92	607	104.0	68.9	68.9	101.25	0.25
001E101	0.00	375,434.75	3,845,870.86	607	104.0	68.9	68.9	101.33	0.25
001E102	45.92	375,432.15	3,845,873.40	597	104.0	68.9	68.9	98.83	0.17
001E103	0.00	375,434.44	3,845,875.36	607	104.0	68.9	68.9	101.41	0.25
001E112	0.00	375,424.27	3,845,865.47	568	104.0	68.9	68.9	104.83	0.67
003E001	25.30	375,412.17	3,845,814.48	495	96.3	65.6	65.6	41.00	3.00
003E002	10.18	375,413.51	3,845,808.18	495	96.3	65.6	65.6	50.00	4.00
003E003	8.13	375,416.23	3,845,831.37	518	96.3	65.6	65.6	80.00	3.00
003E004	12.65	375,417.63	3,845,825.12	522	96.3	65.6	65.6	55.00	3.00
007E001	0.00	375,383.16	3,845,976.91	512	104.0	55.8	55.8	69.21	1.58x2.17
007E002	0.00	375,381.36	3,845,976.50	505	104.0	55.8	55.8	69.21	1.58x2.17
007E003	0.00	375,395.96	3,845,913.18	512	104.0	68.9	68.9	64.13	0.83x1.17
007E004	0.00	375,392.84	3,845,912.52	502	104.0	68.9	68.9	64.13	0.83x1.17
007E005	0.00	375,394.03	3,845,983.11	511	96.3	59.1	59.1	14.00	1.33
007E006	0.00	375,391.19	3,845,981.99	541	96.3	59.1	59.1	19.06	0.33
007E007	0.00	375,363.53	3,845,985.04	456	96.3	65.6	65.6	3.58	1.42x2.00
007E008	0.00	375,392.89	3,845,890.53	486	104.0	68.9	68.9	14.38	0.92x1.17
007E073	0.00	375,394.26	3,845,893.47	489	104.0	68.9	68.9	59.96	1.75
008E001	0.00	375,375.59	3,846,011.58	512	96.3	55.8	55.8	71.50	2.67x2.00
009E014	130.23	375,335.53	3,845,880.29	295	104.0	65.6	65.6	8.75	1.00
009E015	79.60	375,314.40	3,845,856.00	213	50.0	600.0	150.0	15.00	2.00
026E005	33.29	375,309.90	3,846,008.00	300	50.0	600.0	150.0	56.00	1.78
026E006	70.70	375,295.60	3,845,944.00	210	50.0	600.0	150.0	12.33	2.26
026E007	59.70	375,294.50	3,845,935.00	200	50.0	600.0	150.0	15.00	2.26
026E010	33.78	375,292.90	3,846,016.00	270	50.0	600.0	150.0	56.00	1.33
026E011	33.78	375,297.90	3,846,023.00	270	50.0	600.0	150.0	56.00	1.33
026E012	35.10	375,296.70	3,846,029.00	270	50.0	600.0	150.0	56.00	2.00
026E013	33.70	375,295.57	3,846,035.00	270	50.0	600.0	150.0	56.00	1.33
026E014	35.10	375,294.30	3,846,041.00	270	50.0	600.0	150.0	56.00	2.00
026E015	33.80	375,293.10	3,846,047.00	270	50.0	600.0	150.0	56.00	2.33
026E016	33.20	375,292.00	3,846,053.00	270	50.0	600.0	150.0	56.00	3.00
026E019	---	---	---	---	---	---	---	---	---
026E021	33.50	375,319.32	3,845,976.40	361	50.0	600.0	150.0	69.21	3.17
026E023	35.80	375,318.50	3,845,980.00	308	50.0	600.0	150.0	69.21	1.17x1.17
026E027	33.78	375,301.30	3,845,999.00	270	50.0	600.0	150.0	56.00	2.00
026E028	33.78	375,300.00	3,846,004.00	270	50.0	600.0	150.0	56.00	1.33
026E0030	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.67x1.50
888E001	0.00	375,377.88	3,845,858.47	413	104.0	62.3	62.3	3.58	0.75x0.46
888E002	0.00	375,379.98	3,845,854.74	420	104.0	62.3	62.3	3.92	0.83x0.83
888E003	16.67	375,363.83	3,845,820.6	345	104.0	62.3	62.3	12.50	8.33
888E004	---	---	---	---	---	---	---	---	---
888E005	0.00	375,384.24	3,845,713.54	338	96.3	78.7	78.7	18.20	0.92x0.15
888E006	0.00	375,357.48	3,845,758.49	279	96.3	85.3	85.3	17.58	0.33
888E007	0.00	375,348.23	3,845,756.54	249	96.3	91.9	91.9	19.06	0.33
888E008	0.00	375,347.07	3,845,736.98	233	96.3	91.9	91.9	33.46	1.08
888E009	0.00	375,371.42	3,845,761.77	328	96.3	82.0	82.0	29.25	1.08
888E035	0.00	375,417.50	3,846,100.30	630	32.0	275.4	118.0	13.00	1.42
888E037	47.00	375,314.22	3,845,903.10	205	104.0	82.0	82.0	45.00	5.00
888E038	0.00	375,394.03	3,845,983.11	NOT LISTED	NOT LISTED	NOT LISTED	NOT LISTED	11.67	1.33
888E039	0.00	375,458.00	3,846,046.00	NOT LISTED	NOT LISTED	NOT LISTED	NOT LISTED	14.50	2.67

**Title V Permit Application
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Please Refer to Instruction / Definitions Pages Before Completing This Form

EMISSION LIMITS AND STANDARDS (This section summarizes the emission unit emission limits and standards)					
1. Emission Unit	Equipment ID	3. Pollutant/Standard	4. Limit	5. Reference Method	6. Applicable Regulation (Regulation Citation/Condition)
SEE APPENDIX G OR EXISTING TITLE V PERMIT – ALL CONDITIONS THEREIN INCORPORATED BY REFERENCE					

COMPLIANCE AND PERMIT REQUIREMENTS (This section summarizes the emission unit compliance requirements)					
Equipment ID	6. Applicable Regulation (Regulation Citation/Condition)	7. In Compliance (Y/N)	8. Compliance Statement*	9. Compliance Date	10. First Submittal
NOT APPLICABLE– COMPLIANCE WITH EACH CURRENTLY APPLICABLE REQUIREMENT IS CERTIFIED ANNUALLY.					

*By initialing here, the Responsible Official certifies that this emission unit is in compliance with current applicable requirements and that during the permit term the source will continue to comply with such requirements. Further, for applicable requirements that will become effective during the permit term, that the source will meet such requirements on a timely basis, unless a more detailed schedule is expressly required by the applicable requirement.

MONITORING/APPLICABLE REGULATION AND PERMIT/RULE REQUIREMENTS-PART I (This section summarizes the monitoring and reporting requirements. Parts I, II, III, and IV must be completed for each emission unit).					
2. Unit ID	11. Pollutant/Parameter	4. Limit	12. Required Monitoring	13. Monitoring Frequency	14. Reporting Frequency
SEE APPENDIX G OR EXISTING TITLE V PERMIT – ALL CONDITIONS THEREIN INCORPORATED BY REFERENCE					

MONITORING/APPLICABLE REGULATION AND PERMIT/RULE REQUIREMENTS-PART II (This section summarizes the monitoring and reporting requirements)							
2. Unit ID	Equipment ID	3. or 11. Pollutant, Standard or Parameter	4. Limit	15. Recordkeeping Frequency	16. Averaging Time	17. Stack Test	
						Y/N	Frequency
NOT APPLICABLE – NO TESTING IS REQUIRED PER APPLICABLE REQUIREMENTS. ANY MACT COMPLIANCE DEMONSTRATION REQUIRING PERFORMANCE TESTING WILL BE DONE IN ACCORDANCE WITH US EPA REFERENCE METHODS AND PROCEDURES.							

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MONITORING/APPLICABLE REGULATION AND PERMIT/RULE REQUIREMENTS-PART III (This section summarizes the monitoring and reporting requirements not described in Parts I & II. Also summarizes applicable regulations that no Monitoring and Reporting is needed.)				
2. Unit ID	11. Pollutant/Parameter	4. Limit	18. If no monitoring required, why?	19. List any monitoring requirements not listed above
SEE APPENDIX G OR EXISTING TITLE V PERMIT – ALL CONDITIONS THEREIN INCORPORATED BY REFERENCE				

MONITORING/APPLICABLE REGULATION AND PERMIT/RULE REQUIREMENTS-PART IV (This section summarizes the monitoring and reporting requirements)									
2. Unit ID	20. Description (include equip/process ID)	21. Potential Uncontrolled Emissions		22. Control Equip ID	23. Potential Controlled Emissions Tons/Year	24. Subject to CAM Rule (40 CFR 64)?			25. Reason Exempt?
		Pollutant	Tons/Year			Yes*	No	Exempt	
NOT APPLICABLE – CAM APPLICABILITY HAS ALREADY BEEN DETERMINED FOR ALL UNITS AT THE FACILITY DURING THE PREVIOUS TITLE V RENEWAL APPLICATION									

NOTE* If yes, the applicant must submit additional information in the form of a CAM plan as required under 40 CFR 64

FACILITY-WIDE LIMITS FOR REGULATORY AVOIDANCE-PART V (This section summarizes emission unit(s) covered under a limit to avoid an applicable regulation)				
2. Unit ID	11. Pollutant/Parameter	4. Limit (Facility-Wide)	26. Parameter to Monitor	27. Applicable Regulation Avoidance
SEE APPENDIX G OR EXISTING TITLE V PERMIT – ALL CONDITIONS THEREIN INCORPORATED BY REFERENCE				

ADDITIONAL INFORMATION FOR MACT SOURCES-PART VI (This section allows for additional information or requirements for sources subject to a MACT Standard)			
2. Unit ID	28. New or Existing Equipment	29. Control Equip ID	30. List any unit/equipment which is specifically exempt from MACT standards and state why.
SEE APPENDIX G OR EXISTING TITLE V PERMIT – ALL CONDITIONS THEREIN INCORPORATED BY REFERENCE			

ADDITIONAL INFORMATION FOR MACT SOURCES-PART VII (This section allows for additional requirements for sources subject to a MACT Standard)	
2. Unit ID	31. List Other MACT Requirements: Operation examples, such as, maintenance and monitoring, operational/maintenance & malfunction (OM &M) plan, startup, shutdown, and malfunction (SSM) Plan, leak detection and repair (LDAR), wastewater unit requirements, etc.
SEE APPENDIX G OR EXISTING TITLE V PERMIT – ALL CONDITIONS THEREIN INCORPORATED BY REFERENCE	

Attachment B

Total Facility Potential-to-Emit Calculations

Emissions Summary

Total Facility Controlled & Limited Potential-to-Emit

Pollutant	Emissions (tons/yr), by Emission Unit ID Number															Facility Total (tons/yr)
	01 01A	02 02A	03	04	05	06	07	08	09	10	11	12	13	14	15	
PM	---	---	---	---	0.1	0.1	0.1	<0.01	0.7	0.1	6.0	4.3	1.9	1.8	5.5	20.5
PM ₁₀	---	---	---	---	0.1	0.1	0.1	<0.01	0.7	0.1	4.2	3.0	1.3	1.3	5.5	16.3
PM _{2.5}	---	---	---	---	0.1	0.1	0.1	<0.01	0.7	0.1	3.2	2.3	1.0	1.0	5.5	13.9
SO ₂	---	---	---	---	---	---	---	---	---	---	12.9	9.2	40.0	39.1	---	101.1
NO _x	---	---	---	---	---	---	---	---	---	---	36.2	25.9	11.3	12.0	---	85.4
CO	---	---	---	---	---	---	---	---	---	---	20.9	14.9	6.5	10.1	---	52.4
VOC	2.8	0.1	3.5	5.1	0.2	40.0	81.6	---	---	---	1.4	1.0	0.4	0.7	46.3	182.9
Lead	---	---	---	---	---	---	---	---	---	---	<0.01	<0.01	<0.01	<0.01	---	<0.01
Single HAP ⁽¹⁾	---	---	---	---	---	---	---	---	---	---	---	---	---	---	35.8	35.8
Total HAPs	2.6	0.1	3.3	4.8	---	9.5	18.9	---	---	---	0.5	0.3	0.1	0.2	48.4	88.9

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Total Facility Uncontrolled & Limited Potential-to-Emit

Pollutant	Emissions (tons/yr), by Emission Unit ID Number															Facility Total (tons/yr)
	01 01A	02 02A	03	04	05	06	07	08	09	10	11	12	13	14	15	
PM	---	---	---	---	80.2	92.3	89.6	9.3	169.4	60.4	6.0	4.3	1.9	1.8	18.5	533.6
PM ₁₀	---	---	---	---	80.2	92.3	89.6	9.3	169.4	60.4	4.2	3.0	1.3	1.3	18.5	529.4
PM _{2.5}	---	---	---	---	80.2	92.3	89.6	9.3	169.4	60.4	3.2	2.3	1.0	1.0	18.5	527.1
SO ₂	---	---	---	---	---	---	---	---	---	---	12.9	9.2	40.0	39.1	---	101.1
NO _x	---	---	---	---	---	---	---	---	---	---	36.2	25.9	11.3	12.0	---	85.4
CO	---	---	---	---	---	---	---	---	---	---	20.9	14.9	6.5	10.1	---	52.4
VOC	2.8	0.1	3.5	5.1	0.2	40.0	81.6	---	---	---	1.4	1.0	0.4	0.7	46.3	182.9
Lead	---	---	---	---	---	---	---	---	---	---	<0.01	<0.01	<0.01	<0.01	---	<0.01
Single HAP ⁽¹⁾	---	---	---	---	---	---	---	---	---	---	---	---	---	---	35.8	35.8
Total HAPs	2.6	0.1	3.3	4.8	---	9.5	18.9	---	---	---	0.5	0.3	0.1	0.2	48.4	88.9

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Emission Unit 01 & 01A - Train 1 & Train 1 Steam Vents

Discussion

1. "Train 1" and "Train 2" operate as separate batch processes, each with a maximum batch size of [CONFIDENTIAL]. The shortest batch duration [CONFIDENTIAL]. Train 1 & Train 2 emissions are calculated as a combined total because both Train 1 & Train 2 vent out of the same stack (Exhaust 001E112).
2. Using the specified batch time, the maximum capacity for Train 1 & Train 2 (combined) is [CONFIDENTIAL]. The Train 1 Steam Vents are specific to Train 1, and therefore use the capacity [CONFIDENTIAL].
3. VOC emission factor(s) for Train 1 / Train 2, and for Train 1 Steam Vents, is/are the sum of the appropriate "Streams" from AP-42 Chapter 6.6.2 "Poly(ethylene Terephthalate)", Table 6.6.2-1 (01/95). Refer to the footnotes to the emission calculations for details on the selected "stream" factors. One gram per kilogram (g/kg) is equivalent to one pound per thousand pounds (lb/1000lb).
4. HAP (and air toxic) emission factors for Train 1 / Train 2 are derived speciated based on the worst-case percent VOC composition and the listed VOC emission factor. The worst-case percent VOC composition is derived based on the January 16 & 19, 2007 "Comprehensive Emissions Test Report" for the PET Reactor Processes at 3M Decatur Film.

Emission Unit Potential-to-Emit Summary (tons/yr)

Pollutants	01			RB	01A	Emission Unit 01 & 01A Total
	PP1 PC1 PC2	EGR1 MER1 ICR1 RGDT	EGT		PP1SJ PC1SJ PC2SJ	
PM		---	---	N/A	---	---
PM ₁₀		---	---	N/A	---	---
PM _{2.5}		---	---	N/A	---	---
SO ₂		---	---	N/A	---	---
NO _x		---	---	N/A	---	---
CO		---	---	N/A	---	---
VOC		2.64	0.02	N/A	0.09	2.75
Lead		---	---	N/A	---	---
Single HAP		---	---	N/A	---	---
Total HAPs		2.52	0.02	N/A	0.09	2.62

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Emission Unit 01 & 01A - Train 1 & Train 1 Steam Vents

Train 1 Equipment (Exhaust 001E112)

(PP1 - Prepolymer #1; PC1 - Polycon #1; PC2 - Polycon #2; EGR1 - Train 1 REG Receiver; MER1 - Train 1 MeOH Receiver; ICR1 - Train 1 Intermediate Cut Receiver; RGDT - Byproduct EG Day Tank)

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lb/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			0.60	---	0.60	2.64
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			0.57	---	0.57	2.52
Acetaldehyde			0.17	---	0.17	0.73
Dimethyl ether			2.61E-03	---	2.61E-03	0.01
Dioxane, p-			2.61E-03	---	2.61E-03	0.01
Ethylene			2.45E-03	---	2.45E-03	0.01
Ethylene glycol			0.01	---	0.01	0.05
Ethylene oxide			2.45E-03	---	2.45E-03	0.01
Methanol			0.39	---	0.39	1.71
Methyl acetate			1.63E-03	---	1.63E-03	7.14E-03

(1) Emission factors derived as discussed for this emission unit, using [CONFIDENTIAL]. Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for details.

(2) Maximum capacity is derived as described in the discussion section for this Emission Unit. Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for additional details.

*HAP species include acetaldehyde, p-dioxane, ethylene glycol, ethylene oxide, and methanol.

Equipment RB - Blending/Mixing (Exhaust 001E092)

(No emission calculations performed; equipment has been removed)

Emission Unit 01 & 01A - Train 1 & Train 1 Steam Vents

Equipment EGT - Ethylene Glycol Day Tank (Exhaust 001E096)

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lb/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			3.60E-03	---	3.60E-03	0.02
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			3.43E-03	---	3.43E-03	0.02
Acetaldehyde			9.92E-04	---	9.92E-04	4.34E-03
Dimethyl ether			1.56E-05	---	1.56E-05	6.81E-05
Dioxane, p-			1.56E-05	---	1.56E-05	6.81E-05
Ethylene			1.46E-05	---	1.46E-05	6.39E-05
Ethylene glycol			7.29E-05	---	7.29E-05	3.19E-04
Ethyl oxide			1.46E-05	---	1.46E-05	6.39E-05
Methanol			2.33E-03	---	2.33E-03	0.01
Methyl acetate			9.72E-06	---	9.72E-06	4.26E-05

(1) Emission factors derived as discussed for this emission unit, using [CONFIDENTIAL]. Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for details.

(2) Maximum capacity is derived as described in the discussion section for this Emission Unit. Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for additional details.

*HAP species include acetaldehyde, p-dioxane, ethylene glycol, and methanol.

Train 1 Steam Vents (Exhausts 001E101, 102, 103)

(PP1SJ - PP1 Steam Jet Vent; PC1SJ - PC1 Steam Jet Vent; PC2SJ - PC2 Steam Jet Vent)

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lb/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			0.02	---	0.02	0.09
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			0.02	---	0.02	0.09
Acetaldehyde			5.79E-03	---	5.79E-03	0.03
Dimethyl ether			9.08E-05	---	9.08E-05	3.98E-04
Dioxane, p-			9.08E-05	---	9.08E-05	3.98E-04
Ethylene			8.51E-05	---	8.51E-05	3.73E-04
Ethylene glycol			4.25E-04	---	4.25E-04	1.86E-03
Ethyl oxide			8.51E-05	---	8.51E-05	3.73E-04
Methanol			0.01	---	0.01	0.06
Methyl acetate			5.67E-05	---	5.67E-05	2.48E-04

(1) Emission factors derived as discussed for this emission unit, using [CONFIDENTIAL]. Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for details.

(2) Maximum capacity is derived as described in the discussion section for this Emission Unit. Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for additional details.

*HAP species include acetaldehyde, p-dioxane, ethylene glycol, and methanol.

Emission Unit 02 & 02A - Train 2 & Train 2 Steam Vents

Discussion

1. "Train 1" and "Train 2" operate as separate batch processes, each with a maximum batch size of [CONFIDENTIAL]. The shortest batch duration [CONFIDENTIAL]. Train 1 & Train 2 emissions are calculated as a combined total because both Train 1 & Train 2 vent out of the same stack (Exhaust 001E112).
2. Using the specified batch time, the maximum capacity for Train 1 & Train 2 (combined) is [CONFIDENTIAL]. The Train 1 Steam Vents are specific to Train 1, and therefore use the capacity [CONFIDENTIAL].
3. VOC emission factor(s) for Train 1 / Train 2, and for Train 1 Steam Vents, is/are the sum of the appropriate "Streams" from AP-42 Chapter 6.6.2 "Poly(ethylene Terephthalate)", Table 6.6.2-1 (01/95). Refer to the footnotes to the emission calculations for details on the selected "stream" factors. One gram per kilogram (g/kg) is equivalent to one pound per thousand pounds (lb/1000lb).
4. HAP (and air toxic) emission factors for Train 1 / Train 2 are derived speciated based on the worst-case percent VOC composition and the listed VOC emission factor. The worst-case percent VOC composition is derived based on the January 16 & 19, 2007 "Comprehensive Emissions Test Report" for the PET Reactor Processes at 3M Decatur Film.

Emission Unit Potential-to-Emit Summary (tons/yr)

Pollutants	02			02A	Emission Unit 02 & 02A Total
	PP1 PC1 PC2	EGR1 MER1 ICR1 RGDT	EGT	PP1SJ PC1SJ PC2SJ	
PM	Included with Train 1 calculations			---	---
PM ₁₀	Included with Train 1 calculations			---	---
PM _{2.5}	Included with Train 1 calculations			---	---
SO ₂	Included with Train 1 calculations			---	---
NO _x	Included with Train 1 calculations			---	---
CO	Included with Train 1 calculations			---	---
VOC	Included with Train 1 calculations			0.09	0.09
Lead	Included with Train 1 calculations			---	---
Single HAP	Included with Train 1 calculations			---	---
Total HAPs	Included with Train 1 calculations			0.09	0.09

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Train 2 Equipment (Exhaust 001E112)

(PP2 - Prepolymer #2; PC3 - Polycon #3; PC4 - Polycon #4; EGR2 - Train 2 REG Receiver; MER2 - Train 2 MeOH Receiver; ICR2 - Train 2 Intermediate Cut Receiver; RGDT - Byproduct EG Day Tank)
(Emissions for this equipment are calculated as part of Train 1)

Equipment EGT - Ethylene Glycol Day Tank (Exhaust 001E096)

(Emissions for this equipment are calculated as part of Train 1)

Emission Unit 02 & 02A - Train 2 & Train 2 Steam Vents

Train 2 Steam Vents (*Exhausts 001E097, 098, 099*)

(*PP2SJ - PP1 Steam Jet Vent; PC3SJ - PC3 Steam Jet Vent; PC4SJ - PC4 Steam Jet Vent*)

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lb/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			0.02	---	0.02	0.09
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs*			0.02	---	0.02	0.09
Acetaldehyde			5.79E-03	---	5.79E-03	0.03
Dimethyl ether			9.08E-05	---	9.08E-05	3.98E-04
Dioxane, p-			9.08E-05	---	9.08E-05	3.98E-04
Ethylene			8.51E-05	---	8.51E-05	3.73E-04
Ethylene glycol			4.25E-04	---	4.25E-04	1.86E-03
Ethyl oxide			8.51E-05	---	8.51E-05	3.73E-04
Methanol			0.01	---	0.01	0.06
Methyl acetate			5.67E-05	---	5.67E-05	2.48E-04

(1) Emission factors derived as discussed for this emission unit, using stream "G" for "Ethylene Glycol Recovery Condenser" and stream "H" for "Ethylene Glycol Recovery Vacuum System." Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for details.

(2) Maximum capacity is derived as described in the discussion section for this Emission Unit. Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for additional details.

*HAP species include acetaldehyde, p-dioxane, ethylene glycol, and methanol.

Emission Unit 03 - Vertical Ejector Towers

Discussion

1. Emissions from the equipment included in this emission unit may be evaluated using the Train 1 & Train 2 maximum (combined) capacity.
2. "Train 1" and "Train 2" operate as separate batch processes, each with a maximum batch size of [CONFIDENTIAL]. The shortest batch duration for both Train 1 & Train 2 operating simultaneously is 3 hours; therefore, the maximum hourly capacity is [CONFIDENTIAL].
3. VOC emission factor(s) for this equipment is/are the sum of the appropriate "Streams" from AP-42 Chapter 6.6.2 "Poly(ethylene Terephthalate)", Table 6.6.2-1 (01/95). Refer to the footnotes to the emission calculations for details on the selected "stream" factors. One gram per kilogram (g/kg) is equivalent to one pound per thousand pounds (lb/1000lb).
4. HAP (and air toxic) emission factors for Train 1 / Train 2 are derived speciated based on the worst-case percent VOC composition and the listed VOC emission factor. The worst-case percent VOC composition is derived based on the January 16 & 19, 2007 "Comprehensive Emissions Test Report" for the PET Reactor Processes at 3M Decatur Film.

Emission Unit Potential-to-Emit Summary (tons/yr)

Pollutants	EJT1	EJT2	Emission Unit 03 Total
PM	---	Removed	---
PM ₁₀	---	Removed	---
PM _{2.5}	---	Removed	---
SO ₂	---	Removed	---
NO _x	---	Removed	---
CO	---	Removed	---
VOC	3.50	Removed	3.50
Lead	---	Removed	---
Single HAP	---	Removed	---
Total HAPs	3.34	Removed	3.34

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Emission Unit 03 - Vertical Ejector Towers

Equipment EJ1 - Resin Train Cooling Tower (Exhaust 888E003)

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lb/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			0.80	---	0.80	3.50
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs*			0.76	---	0.76	3.34
Acetaldehyde			0.22	---	0.22	0.97
Dimethyl ether			3.46E-03	---	3.46E-03	0.02
Dioxane, p-			3.46E-03	---	3.46E-03	0.02
Ethylene			3.24E-03	---	3.24E-03	0.01
Ethylene glycol			0.02	---	0.02	0.07
Ethyl oxide			3.24E-03	---	3.24E-03	0.01
Methanol			0.52	---	0.52	2.27
Methyl acetate			2.16E-03	---	2.16E-03	9.47E-03

(1) Emission factors derived as discussed for this emission unit, using [CONFIDENTIAL]. Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for details.

(2) Maximum capacity is derived as described in the discussion section for this Emission Unit. Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for additional details.

*HAP species include acetaldehyde, p-dioxane, ethylene glycol, and methanol.

Equipment EJ2 - Vertical Ejector Tower 2 (Exhaust 888E004)

(No emission calculations performed; equipment has been removed)

Emission Unit 04 - Resin Tank Farm

Discussion

1. Emissions from the equipment included in this emission unit may be evaluated using the Train 1 & Train 2 maximum (combined) capacity.
2. "Train 1" and "Train 2" operate as separate batch processes, each with a maximum batch size of [CONFIDENTIAL]. The shortest batch duration for both Train 1 & Train 2 operating simultaneously is 3 hours; therefore, the maximum hourly capacity is [CONFIDENTIAL].
3. VOC emission factor(s) for this equipment is/are the sum of the appropriate "Streams" from AP-42 Chapter 6.6.2 "Poly(ethylene Terephthalate)", Table 6.6.2-1 (01/95). Refer to the footnotes to the emission calculations for details on the selected "stream" factors. One gram per kilogram (g/kg) is equivalent to one pound per thousand pounds (lb/1000lb).
4. HAP (and air toxic) emission factors for Train 1 / Train 2 are derived speciated based on the worst-case percent VOC composition and the listed VOC emission factor. The worst-case percent VOC composition is derived based on the January 16 & 19, 2007 "Comprehensive Emissions Test Report" for the PET Reactor Processes at 3M Decatur Film.

Emission Unit Potential-to-Emit Summary (tons/yr)

Pollutants	MEOH	VEGT	REGT	DMTT	Emission Unit 04 Total
PM	---	---	---	N/A	---
PM ₁₀	---	---	---	N/A	---
PM _{2.5}	---	---	---	N/A	---
SO ₂	---	---	---	N/A	---
NO _x	---	---	---	N/A	---
CO	---	---	---	N/A	---
VOC	1.58	1.75	1.75	N/A	5.08
Lead	---	---	---	N/A	---
Single HAP	---	---	---	N/A	---
Total HAPs	1.50	1.67	1.67	N/A	4.84

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Emission Unit 04 - Resin Tank Farm

Equipment MEOH - Byproduct Methanol Tank (Exhaust 888E005)

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lb/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			0.36	---	0.36	1.58
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs*			0.34	---	0.34	1.50
Acetaldehyde			0.10	---	0.10	0.43
Dimethyl ether			1.56E-03	---	1.56E-03	6.81E-03
Dioxane, p-			1.56E-03	---	1.56E-03	6.81E-03
Ethylene			1.46E-03	---	1.46E-03	6.39E-03
Ethylene glycol			7.29E-03	---	7.29E-03	0.03
Ethyl oxide			1.46E-03	---	1.46E-03	6.39E-03
Methanol			0.23	---	0.23	1.02
Methyl acetate			9.72E-04	---	9.72E-04	4.26E-03

(1) Emission factors derived as discussed for this emission unit, using [CONFIDENTIAL]. Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for details.

(2) Maximum capacity is derived as described in the discussion section for this Emission Unit. Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for additional details.

*HAP species include acetaldehyde, p-dioxane, ethylene glycol, and methanol.

Equipment VEGT - Virgin EG Tank (Exhaust 888E006)

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lb/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			0.40	---	0.40	1.75
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs*			0.38	---	0.38	1.67
Acetaldehyde			0.11	---	0.11	0.48
Dimethyl ether			1.73E-03	---	1.73E-03	7.57E-03
Dioxane, p-			1.73E-03	---	1.73E-03	7.57E-03
Ethylene			1.62E-03	---	1.62E-03	7.10E-03
Ethylene glycol			8.10E-03	---	8.10E-03	0.04
Ethyl oxide			1.62E-03	---	1.62E-03	7.10E-03
Methanol			0.26	---	0.26	1.14
Methyl acetate			1.08E-03	---	1.08E-03	4.73E-03

(1) Emission factors derived as discussed for this emission unit, using [CONFIDENTIAL]. Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for details.

(2) Maximum capacity is derived as described in the discussion section for this Emission Unit. Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for additional details.

*HAP species include acetaldehyde, p-dioxane, ethylene glycol, and methanol.

Emission Unit 04 - Resin Tank Farm

Equipment REGT - Recovered EG Tank (*Exhaust 888E007*)

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lb/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			0.40	---	0.40	1.75
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs*			0.38	---	0.38	1.67
Acetaldehyde			0.11	---	0.11	0.48
Dimethyl ether			1.73E-03	---	1.73E-03	7.57E-03
Dioxane, p-			1.73E-03	---	1.73E-03	7.57E-03
Ethylene			1.62E-03	---	1.62E-03	7.10E-03
Ethylene glycol			8.10E-03	---	8.10E-03	0.04
Ethyl oxide			1.62E-03	---	1.62E-03	7.10E-03
Methanol			0.26	---	0.26	1.14
Methyl acetate			1.08E-03	---	1.08E-03	4.73E-03

(1) Emission factors derived as discussed for this emission unit, using [CONFIDENTIAL]. Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for details.

(2) Maximum capacity is derived as described in the discussion section for this Emission Unit. Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for additional details.

*HAP species include acetaldehyde, p-dioxane, ethylene glycol, and methanol.

Equipment DMTT - DMT Tank (*Exhaust N/A*)

(No emission calculations performed; unit has no vent for emissions)

Emission Unit 05 - Tanks and Virgin Silo

Discussion

1. Product throughput for the VSILO originates from the 2005 revised submittal to address CAM applicability.
2. The emission factor(s) for the VSILO is/are the sum of the appropriate "Streams" from AP-42 Chapter 6.6.2 "Poly(ethylene Terephthalate)", Table 6.6.2-1 (01/95). Refer to the footnotes to the emission calculations for details on the selected "stream" factors. One gram per kilogram (g/kg) is equivalent to one pound per thousand pounds (lb/1000lb).
3. Where applicable, BH2 Baghouse information from the October 2003 renewal application submittal.
4. Emissions from the distillate fuel oil tanks, FOT1 and FOT2, are calculated using the US EPA TANKS 4.0.9d software and the respective tank parameters used in the October 2003 Title V Renewal application. Please see the TANKS printouts at the end of this attachment. Please note that the TANKS software used in these calculations is a later version than that used in the October 2003 Title V Renewal Application.
5. Emissions from the VSILO are expected to be particulates only; emissions from FOT1 and FOT2 are expected to be VOCs only. No hazardous air pollutants are expected from this equipment.

Emission Unit Potential-to-Emit Summary (tons/yr)

Pollutant	BH2 VSILO	FOT1	FOT2	Emission Unit 05 Total
PM	0.08	---	---	0.08
PM ₁₀	0.08	---	---	0.08
PM _{2.5}	0.08	---	---	0.08
SO ₂	---	---	---	---
NO _x	---	---	---	---
CO	---	---	---	---
VOC	---	0.12	0.04	0.16
Lead	---	---	---	---
Single HAP ⁽¹⁾	---	---	---	---
Total HAPs	---	---	---	---

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Equipment VSILO - Virgin Silo Airveying including Master Batch and Virgin Silos (Exhaust 888E001)

Controlled by the BH2 Baghouse

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lb/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽¹⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			18.30	99.90%	0.02	0.08
PM ₁₀			18.30	99.90%	0.02	0.08
PM _{2.5}			18.30	99.90%	0.02	0.08
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) PM emission factor is derived as discussed for this emission unit, using [CONFIDENTIAL]. Control efficiency is selected as discussed for this emission unit. Please refer to the April 2003 Title V Renewal application or the original Title V renewal application for details.

(2) Maximum capacity, in pounds of raw material per hour, from the 2005 revised submittal to address CAM applicability.

Emission Unit 05 - Tanks and Virgin Silo

Equipment FOT1 - Distillate Fuel Oil Tank (*Exhaust 888E008*)

Pollutant	Emission Factor	Max. Capacity (gal)	Emission Rate ⁽¹⁾ (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate ⁽¹⁾ (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			0.03	---	0.03	0.12
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Hourly emission rates are back-calculated from the annual rates based on 8,760 hours/yr potential operation.

Equipment FOT2 - Distillate Fuel Oil Tank (*Exhaust 888E009*)

Pollutant	Emission Factor	Max. Capacity (lb/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			9.30E-03	---	9.30E-03	0.04
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Hourly emission rates are back-calculated from the annual rates based on 8,760 hours/yr potential operation.

Emission Unit 06 - G1 Film Line

Discussion

1. Particulate emission factor of [CONFIDENTIAL]. One gram per kilogram (g/kg) is equivalent to one pound per thousand pounds (lb/1000lb).
2. Where applicable, BH7 Baghouse control efficiency from the October 2003 renewal application submittal; BH12 Baghouse control efficiency derived from the April 4, 2006 written response to SCDHEC comments; and BH13 Baghouse control efficiency derived from the written notification to install the unit submitted to SCDHEC May 17, 2006
3. Except for the G1ET unit, product throughput for each unit originates from either the October 2003 renewal application submittal, or the 2005 revised submittal to address CAM applicability.
4. All dryers & ovens included with this emission unit is/are powered by electricity. Fuel combustion emissions are not included.
5. VOC potential emissions for the G1XT and G1TN emission units are calculated based on the information provided in the October 2003 Title V Renewal application. Please refer to that document for additional details.

Emission Unit Potential-to-Emit Summary (tons/yr)

Pollutant	BH13	BH7	BH12	G1XT	G1TN	OLS	Emission Unit 06 Total
	DTOW1 G1DT	G1GR	G1ET				
PM	0.08	6.66E-03	0.02	---	---	Removed	0.11
PM ₁₀	0.08	6.66E-03	0.02	---	---	Removed	0.11
PM _{2.5}	0.08	6.66E-03	0.02	---	---	Removed	0.11
SO ₂	---	---	---	---	---	Removed	---
NO _x	---	---	---	---	---	Removed	---
CO	---	---	---	---	---	Removed	---
VOC	---	---	---	0.57	39.42	Removed	39.99
Lead	---	---	---	---	---	Removed	---
Single HAP	---	---	---	---	---	Removed	---
Total HAPs	---	---	---	0.57	8.97	Removed	9.54

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Equipment DTOW1 - G1 Dryer Airveying (Exhaust 888E039)

Includes emissions from Equipment G1DT - G1 Dryer Tower

Controlled by the BH13 Baghouse

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽¹⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			19.00	99.90%	0.02	0.08
PM ₁₀			19.00	99.90%	0.02	0.08
PM _{2.5}			19.00	99.90%	0.02	0.08
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor and pollution control efficiency (where applicable) selected per the discussion.

(2) Maximum capacity, in pounds of raw material per hour, from the 2005 revised submittal to address CAM applicability.

Emission Unit 06 - G1 Film Line

Equipment G1GR - G1 Grinder Airveying (*Exhaust 007E005*)

Controlled by the BH7 Baghouse

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽¹⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			1.52	99.90%	1.52E-03	6.66E-03
PM ₁₀			1.52	99.90%	1.52E-03	6.66E-03
PM _{2.5}			1.52	99.90%	1.52E-03	6.66E-03
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor and pollution control efficiency (where applicable) selected per the discussion.

(2) Maximum capacity, in pounds of raw material per hour, from the 2005 revised submittal to address CAM applicability.

Equipment G1ET - G1 Edge Trimmer including Airveying (*Exhaust 888E038*)

Controlled by the BH12 Baghouse

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽¹⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			0.56	99.00%	5.60E-03	0.02
PM ₁₀			0.56	99.00%	5.60E-03	0.02
PM _{2.5}			0.56	99.00%	5.60E-03	0.02
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor and pollution control efficiency (where applicable) selected per the discussion.

(2) Maximum capacity is from the April 4, 2006 written response to SCDHEC comments

Equipment G1XT - G1 Extruder (*Exhaust 001E057*)

Pollutant	Emission Factor ⁽¹⁾ (%)	Max. Capacity (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			0.13	---	0.13	0.57
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			0.13	---	0.13	0.57
Acetaldehyde			0.13	---	0.13	0.57

(1) Emission factors back-calculated based on the listed uncontrolled emission rate, obtained from Emissions Testing--see the October 2003 Title V Renewal application for additional details--and the listed maximum capacity.

Emission Unit 06 - G1 Film Line

Equipment G1TN - G1 Tenter (*Exhaust 001E002*)

Pollutant	Emission Factor ⁽¹⁾ (%)	Max. Capacity (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			9.00	---	9.00	39.42
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			2.05	---	2.05	8.97
Antimony			0.02	---	0.02	0.07
Diethanolamine			0.01	---	0.01	0.05
Ethyl acrylate			0.11	---	0.11	0.48
Formaldehyde			7.00E-03	---	7.00E-03	0.03
Glycol ethers			0.25	---	0.25	1.10
Methanol			0.50	---	0.50	2.19
MEK			0.10	---	0.10	0.44
MIBK			2.00E-03	---	2.00E-03	8.76E-03
Methyl methacrylate			1.05	---	1.05	4.60

(1) Emission factors back-calculated based on the listed uncontrolled emission rate, obtained from Material Balance--see the October 2003 Title V Renewal application for additional details--and the listed maximum capacity.

*HAP species do *not* include MEK.

Equipment OLS - OLS (*Exhaust 001E043*)

(No emission calculations performed; equipment has been removed)

Emission Unit 07 - G2 Film Line

Discussion

1. Particulate emission factor of [CONFIDENTIAL]. One gram per kilogram (g/kg) is equivalent to one pound per thousand pounds (lb/1000lb).
2. Where applicable, BH5, BH6, and BH11 Baghouse information is from the October 2003 renewal application submittal.
3. Product throughput for each unit originates from either the October 2003 renewal application submittal, or the 2005 revised submittal to address CAM applicability.
4. All dryers & ovens included with this emission unit is/are powered by electricity. Fuel combustion emissions are not included.
5. VOC potential emissions for the G2XT, G2PC, and G2GC emission units are calculated based on the information provided in the October 2003 Title V Renewal application. Please refer to that document for additional details.

Emission Unit Potential-to-Emit Summary (tons/yr)

Pollutant	BH5	BH6	BH11	G2XT	G2PC	G2GC	G2C	Emission Unit 07 Total
	DTOW2 G2DT	G2GR	G2ET					
PM	N/A	0.02	0.07	---	---	---	N/A	0.09
PM ₁₀	N/A	0.02	0.07	---	---	---	N/A	0.09
PM _{2.5}	N/A	0.02	0.07	---	---	---	N/A	0.09
SO ₂	N/A	---	---	---	---	---	N/A	---
NO _x	N/A	---	---	---	---	---	N/A	---
CO	N/A	---	---	---	---	---	N/A	---
VOC	N/A	---	---	0.96	40.30	40.30	N/A	81.56
Lead	N/A	---	---	---	---	---	N/A	---
Single HAP ⁽¹⁾	N/A	---	---	---	---	---	N/A	---
Total HAPs	N/A	---	---	0.96	8.97	8.97	N/A	18.90

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Equipment DTOW2 - G2 Dryer Airveying (Exhaust 007E008)

Includes emissions from Equipment G2DT - G2 Dryer Tower

Controlled by the BH5 Baghouse

(Emissions for this equipment is calculated as part of DTOW1)

Equipment G2GR - G2 Grinder including Airveying (Exhaust 007E007)

Controlled by the BH6 Baghouse

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽¹⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			4.00	99.90%	4.00E-03	0.02
PM ₁₀			4.00	99.90%	4.00E-03	0.02
PM _{2.5}			4.00	99.90%	4.00E-03	0.02
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor and pollution control efficiency (where applicable) selected per the discussion.

(2) Maximum capacity, in pounds of raw material per hour, from the 2005 revised submittal to address CAM applicability.

Emission Unit 07 - G2 Film Line

Equipment G2ET - G2 Edge Trim including Airveying (Exhaust 007E006) Controlled by the BH11 Baghouse

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽¹⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			16.46	99.90%	0.02	0.07
PM ₁₀			16.46	99.90%	0.02	0.07
PM _{2.5}			16.46	99.90%	0.02	0.07
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor and pollution control efficiency (where applicable) selected per the discussion.

(2) Maximum capacity, in pounds of raw material per hour, from the 2005 revised submittal to address CAM applicability.

Equipment G2XT - G2 Extruder (Exhaust 007E073)

Pollutant	Emission Factor ⁽¹⁾ (%)	Max. Capacity (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			0.22	---	0.22	0.96
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			0.22	---	0.22	0.96
Acetaldehyde			0.22	---	0.22	0.96

(1) Emission factors back-calculated based on the listed uncontrolled emission rate, obtained from Emissions Testing--see the October 2003 Title V Renewal application for additional details--and the listed maximum capacity.

Emission Unit 07 - G2 Film Line

Equipment G2PC - P Coater (Exhaust 007E003, 004)

Pollutant	Emission Factor ⁽¹⁾ (%)	Max. Capacity (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			9.20	---	9.20	40.30
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			2.05	---	2.05	8.97
Antimony			0.02	---	0.02	0.07
Diethanolamine			0.01	---	0.01	0.05
Ethyl acrylate			0.11	---	0.11	0.48
Formaldehyde			7.00E-03	---	7.00E-03	0.03
Glycol ethers			0.25	---	0.25	1.10
Methanol			0.50	---	0.50	2.19
MEK			0.10	---	0.10	0.44
MIBK			2.00E-03	---	2.00E-03	8.76E-03
Methyl methacrylate			1.05	---	1.05	4.60

(1) Emission factors back-calculated based on the listed uncontrolled emission rate, obtained from Material Balance--see the October 2003 Title V Renewal application for additional details--and the listed maximum capacity.

*HAP species do *not* include MEK.

Equipment G2GC - G Coater (Exhaust 007E001, 002)

Pollutant	Emission Factor ⁽¹⁾ (%)	Max. Capacity (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			9.20	---	9.20	40.30
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			2.05	---	2.05	8.97
Antimony			0.02	---	0.02	0.07
Diethanolamine			0.01	---	0.01	0.05
Ethyl acrylate			0.11	---	0.11	0.48
Formaldehyde			7.00E-03	---	7.00E-03	0.03
Glycol ethers			0.25	---	0.25	1.10
Methanol			0.50	---	0.50	2.19
MEK			0.10	---	0.10	0.44
MIBK			2.00E-03	---	2.00E-03	8.76E-03
Methyl methacrylate			1.05	---	1.05	4.60

(1) Emission factors back-calculated based on the listed uncontrolled emission rate, obtained from Material Balance--see the October 2003 Title V Renewal application for additional details--and the listed maximum capacity.

*HAP species do *not* include MEK.

3M Greenville Film - Greenville, SC
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Emission Unit 07 - G2 Film Line

Equipment G2C - C Oven (*Exhaust 008E001*)

(No emission calculations performed; equipment is electrical and exhaust is heat only)

Emission Unit 08 - Visual Converting Process

Discussion

1. All equipment in this emission unit is/are expected to emit only particulates during normal operation.
2. All annual/hourly emission rates for the equipment included in this Emission Unit are determined through engineering estimates. The emission factors--presented for these units for completeness, only--are back-calculated based on the engineering-estimated emission rates.
3. All BH9 Baghouse information from the October 2003 renewal application submittal.
4. Product throughput for each unit originates from the October 2003 renewal application submittal, or the 2005 revised submittal to address CAM applicability.

Emission Unit Potential-to-Emit Summary (tons/yr)

Pollutant	BH9 Baghouse			Emission Unit 08 Total
	CT01	CT02	VSET	
PM	2.50E-04	Removed	4.38E-03	4.63E-03
PM ₁₀	2.50E-04	Removed	4.38E-03	4.63E-03
PM _{2.5}	2.50E-04	Removed	4.38E-03	4.63E-03
SO ₂	---	Removed	---	---
NO _x	---	Removed	---	---
CO	---	Removed	---	---
VOC	---	Removed	---	---
Lead	---	Removed	---	---
Single HAP ⁽¹⁾	---	Removed	---	---
Total HAPs	---	Removed	---	---

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Equipment CT01 - Cut-to-Size 1 with Collection Cyclone Separator 1 (Exhaust 888E035) Controlled by the BH9 Baghouse

Pollutant	Emission Factor ⁽¹⁾ (lb/box)	Max. Capacity ⁽²⁾ (boxes/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽¹⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			0.11	99.95%	5.70E-05	2.50E-04
PM ₁₀			0.11	99.95%	5.70E-05	2.50E-04
PM _{2.5}			0.11	99.95%	5.70E-05	2.50E-04
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor and pollution control efficiency (where applicable) selected per the discussion.

(2) Maximum capacity, in boxes per hour, from the October 2003 renewal application submittal.

Equipment CT02 - Cut-to-Size 2 with Collection Cyclone Separator 2 (Exhaust 888E035)

(No emission calculations performed; equipment has been removed)

Emission Unit 08 - Visual Converting Process

Equipment VSET - VSET Edge (Exhaust 888E035)

Controlled by the BH9 Baghouse

Pollutant	Emission Factor ⁽¹⁾ (lbs/lb)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽¹⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			2.00	99.95%	1.00E-03	4.38E-03
PM ₁₀			2.00	99.95%	1.00E-03	4.38E-03
PM _{2.5}			2.00	99.95%	1.00E-03	4.38E-03
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor and pollution control efficiency (where applicable) selected per the discussion.

(2) Maximum capacity, in pounds of raw material per hour, from the 2005 revised submittal to address CAM applicability.

Emission Unit 09 - PET Reclaim Process

Discussion

1. All equipment in this emission unit is/are expected to emit only particulates during normal operation.
2. Particulate emission factor of [CONFIDENTIAL]. One gram per kilogram (g/kg) is equivalent to one pound per thousand pounds (lb/1000lb).
3. Where applicable, BH3, BH4, and BH10 Baghouse information from the October 2003 renewal application submittal.
4. Product throughput for each unit originates from either the October 2003 renewal application submittal, or the 2005 revised submittal to address CAM applicability.

Emission Unit Potential-to-Emit Summary (tons/yr)

Pollutant	BH3	BH4	PTZR	BH10	Emission Unit 09 Total
	RSILO	FSILO		RBFQ	
PM	0.06	0.06	N/A	0.56	0.68
PM ₁₀	0.06	0.06	N/A	0.56	0.68
PM _{2.5}	0.06	0.06	N/A	0.56	0.68
SO ₂	---	---	N/A	---	---
NO _x	---	---	N/A	---	---
CO	---	---	N/A	---	---
VOC	---	---	N/A	---	---
Lead	---	---	N/A	---	---
Single HAP ⁽¹⁾	---	---	N/A	---	---
Total HAPs	---	---	N/A	---	---

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Equipment RSIL0 - Reclaim Silo Airveying including Reclaim and other Virgin Silos (Exhaust 888E002) Controlled by the BH3 Baghouse

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽¹⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			12.89	99.90%	0.01	0.06
PM ₁₀			12.89	99.90%	0.01	0.06
PM _{2.5}			12.89	99.90%	0.01	0.06
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor and pollution control efficiency (where applicable) selected per the discussion.

(2) Maximum capacity, in pounds of raw material per hour, from the 2005 revised submittal to address CAM applicability.

Emission Unit 09 - PET Reclaim Process

Equipment FSILO - Flake Silo including Airveying (*Exhaust 009E014*)

Controlled by the BH4 Baghouse

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽¹⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			12.89	99.90%	0.01	0.06
PM ₁₀			12.89	99.90%	0.01	0.06
PM _{2.5}			12.89	99.90%	0.01	0.06
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor and pollution control efficiency (where applicable) selected per the discussion.

(2) Maximum capacity, in pounds of raw material per hour, from the 2005 revised submittal to address CAM applicability.

Equipment PTZR - Reclaim Pelletizers (*No Exhaust*)

(No emission calculations performed; unit has no vent for emissions)

Equipment RBFG - PET Reclaim Fugitives (*Exhaust 888E037*)

Controlled by the BH10 Baghouse

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽¹⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			12.89	99.00%	0.13	0.56
PM ₁₀			12.89	99.00%	0.13	0.56
PM _{2.5}			12.89	99.00%	0.13	0.56
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor and pollution control efficiency (where applicable) selected per the discussion.

(2) Maximum capacity, in pounds of raw material per hour, from the 2005 revised submittal to address CAM applicability.

Emission Unit 10 - Box/Tote Material Handling

Discussion

1. All equipment in this emission unit is/are expected to emit only particulates during normal operation.
2. Particulate emission factor of [CONFIDENTIAL]. One gram per kilogram (g/kg) is equivalent to one pound per thousand pounds (lb/1000lb).
3. Where applicable, BH1 Baghouse information is from the October 2003 renewal application submittal.
4. Product throughput for each unit originates from either the October 2003 renewal application submittal, or the 2005 revised submittal to address CAM applicability.

Emission Unit Potential-to-Emit Summary (tons/yr)

Pollutant	BH1	Emission Unit 10 Total
	BTLU	
PM	0.06	0.06
PM ₁₀	0.06	0.06
PM _{2.5}	0.06	0.06
SO ₂	---	---
NO _x	---	---
CO	---	---
VOC	---	---
Lead	---	---
Single HAP ⁽¹⁾	---	---
Total HAPs	---	---

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Equipment BTLU - Box/Tote Airveying (Exhaust 009E015)

Controlled by the BH1 Baghouse

Pollutant	Emission Factor ⁽¹⁾ (lb/1000 lb)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽¹⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			13.80	99.90%	0.01	0.06
PM ₁₀			13.80	99.90%	0.01	0.06
PM _{2.5}			13.80	99.90%	0.01	0.06
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor and pollution control efficiency (where applicable) selected per the discussion.

(2) Maximum capacity, in pounds of raw material per hour, from the 2005 revised submittal to address CAM applicability.

Emission Unit 11 - Steam Boiler #1

Discussion

1. Steam Boiler #1 is permitted to operate on natural gas or no. 2 fuel oil with a fuel sulfur content $\leq 0.05\%$.
2. The summary for this emission unit presents the worst-case emissions by pollutant. For details on each fuel, please refer to the tables below.

Emission Unit Potential-to-Emit Summary (tons/yr)

Pollutant	SB1	Emission Unit 11 Total
PM	5.98	5.98
PM ₁₀	4.17	4.17
PM _{2.5}	3.17	3.17
SO ₂	12.86	12.86
NO _x	36.23	36.23
CO	20.88	20.88
VOC	1.37	1.37
Lead	2.28E-03	2.28E-03
Single HAP ⁽¹⁾	---	---
Total HAPs	0.47	0.47

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Equipment SB1 - 57.9 MMBtu/hr Steam Boiler #1 (Exhaust 003E001) (Natural gas combustion)

Pollutant	Emission Factor ⁽¹⁾ (lb/MMscf)	Max. Capacity (MMBtu/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM	7.6	57.9	0.43	---	0.43	1.89
PM ₁₀	7.6		0.43	---	0.43	1.89
PM _{2.5}	7.6		0.43	---	0.43	1.89
SO ₂	0.60		0.03	---	0.03	0.15
NO _x	100		5.68	---	5.68	24.86
CO	84		4.77	---	4.77	20.88
VOC	5.50		0.31	---	0.31	1.37
Lead	5.00E-04		2.84E-05	---	2.84E-05	1.24E-04
Single HAP	---		---	---	---	---
Total HAPs	1.89		0.11	---	0.11	0.47
Arsenic	2.00E-04		1.14E-05	---	1.14E-05	4.97E-05
Benzene	2.10E-03		1.19E-04	---	1.19E-04	5.22E-04
Beryllium	1.20E-05		6.81E-07	---	6.81E-07	2.98E-06
Cadmium	1.10E-03		6.24E-05	---	6.24E-05	2.73E-04
Chromium	1.40E-03		7.95E-05	---	7.95E-05	3.48E-04
Cobalt	8.40E-05		4.77E-06	---	4.77E-06	2.09E-05
Dichlorobenzene	1.20E-03		6.81E-05	---	6.81E-05	2.98E-04
Formaldehyde	7.50E-02		4.26E-03	---	4.26E-03	0.02
Hexane	1.80		0.10	---	0.10	0.45
Manganese	3.80E-04		2.16E-05	---	2.16E-05	9.45E-05
Mercury	2.60E-04		1.48E-05	---	1.48E-05	6.46E-05
Naphthalene	6.10E-04		3.46E-05	---	3.46E-05	1.52E-04
Nickel	2.10E-03		1.19E-04	---	1.19E-04	5.22E-04
POM	8.82E-05		5.01E-06	---	5.01E-06	2.19E-05
Selenium	2.40E-05		1.36E-06	---	1.36E-06	5.97E-06
Toluene	3.40E-03		1.93E-04	---	1.93E-04	8.45E-04

(1) All emission factors from AP-42 Chapter 1.4 "Natural Gas Combustion," Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4 (07/98). A natural gas heating value of 1,020 Btu/cf may be used as a conversion factor.

Emission Unit 11 - Steam Boiler #1

Equipment SB1 - 57.9 MMBtu/hr Steam Boiler #1 (Exhaust 003E001)

(No. 2 fuel oil combustion)

Pollutant	Emission Factor ⁽¹⁾ (lb/10 ³ gal)	Max. Capacity (MMBtu/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM	3.3	57.9	1.36	---	1.36	5.98
PM ₁₀	2.3		0.95	---	0.95	4.17
PM _{2.5}	1.8		0.72	---	0.72	3.17
SO ₂	7.1		2.94	---	2.94	12.86
NO _x	20		8.27	---	8.27	36.23
CO	5		2.07	---	2.07	9.06
VOC	0.2		0.08	---	0.08	0.36
Lead	1.26E-03		5.21E-04	---	5.21E-04	2.28E-03
Single HAP	---		---	---	---	---
Total HAPs	0.05		0.02	---	0.02	0.10
Arsenic	5.60E-04		2.32E-04	---	2.32E-04	1.01E-03
Benzene	2.14E-04		8.85E-05	---	8.85E-05	3.88E-04
Beryllium	4.20E-04		1.74E-04	---	1.74E-04	7.61E-04
Cadmium	4.20E-04		1.74E-04	---	1.74E-04	7.61E-04
Chromium	4.20E-04		1.74E-04	---	1.74E-04	7.61E-04
Ethyl benzene	6.36E-05		2.63E-05			
Formaldehyde	3.30E-02		0.01	---	0.01	0.06
Manganese	8.40E-04		3.47E-04	---	3.47E-04	1.52E-03
Mercury	4.20E-04		1.74E-04	---	1.74E-04	7.61E-04
Naphthalene	1.13E-03		4.67E-04	---	4.67E-04	2.05E-03
Nickel	4.20E-04		1.74E-04	---	1.74E-04	7.61E-04
POM	6.06E-05		2.51E-05	---	2.51E-05	1.10E-04
Selenium	2.10E-03		8.69E-04	---	8.69E-04	3.80E-03
Toluene	6.20E-03		2.56E-03	---	2.56E-03	0.01
Trichloroethane	6.20E-03		2.56E-03	---	2.56E-03	0.01

(1) All emission factors from AP-42 Chapter 1.3 "Fuel Oil Combustion," Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4 (07/98). A no. 2 fuel oil heating value of 140 MMBtu/10³gal may be used as a conversion factor. Where applicable, emission factors use the highest permitted fuel sulfur content. Particulate emission factors include condensable particulates.

Emission Unit 12 - Steam Boiler #2

Discussion

1. Steam Boiler #2 is permitted to operate on natural gas or no. 2 fuel oil with a fuel sulfur content $\leq 0.05\%$.
2. The summary for this emission unit presents the worst-case emissions by pollutant. For details on each fuel, please refer to the tables below.

Emission Unit Potential-to-Emit Summary (tons/yr)

Pollutant	SB2	Emission Unit 12 Total
PM	4.27	4.27
PM ₁₀	2.98	2.98
PM _{2.5}	2.27	2.27
SO ₂	9.20	9.20
NO _x	25.90	25.90
CO	14.93	14.93
VOC	0.98	0.98
Lead	1.63E-03	1.63E-03
Single HAP ⁽¹⁾	---	---
Total HAPs	0.34	0.34

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Equipment SB2 - 41.4 MMBtu/hr Steam Boiler #2 (Exhaust 003E002) (Natural gas combustion)

Pollutant	Emission Factor ⁽¹⁾ (lb/MMscf)	Max. Capacity (MMBtu/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM	7.6	41.4	0.31	---	0.31	1.35
PM ₁₀	7.6		0.31	---	0.31	1.35
PM _{2.5}	7.6		0.31	---	0.31	1.35
SO ₂	0.60		0.02	---	0.02	0.11
NO _x	100		4.06	---	4.06	17.78
CO	84		3.41	---	3.41	14.93
VOC	5.50		0.22	---	0.22	0.98
Lead	5.00E-04		2.03E-05	---	2.03E-05	8.89E-05
Single HAP	---		---	---	---	---
Total HAPs	1.89		0.08	---	0.08	0.34
Arsenic	2.00E-04		8.12E-06	---	8.12E-06	3.56E-05
Benzene	2.10E-03		8.52E-05	---	8.52E-05	3.73E-04
Beryllium	1.20E-05		4.87E-07	---	4.87E-07	2.13E-06
Cadmium	1.10E-03		4.46E-05	---	4.46E-05	1.96E-04
Chromium	1.40E-03		5.68E-05	---	5.68E-05	2.49E-04
Cobalt	8.40E-05		3.41E-06	---	3.41E-06	1.49E-05
Dichlorobenzer	1.20E-03		4.87E-05	---	4.87E-05	2.13E-04
Formeldahyde	7.50E-02		3.04E-03	---	3.04E-03	0.01
Hexane	1.80		0.07	---	0.07	0.32
Manganese	3.80E-04		1.54E-05	---	1.54E-05	6.76E-05
Mercury	2.60E-04		1.06E-05	---	1.06E-05	4.62E-05
Naphthalene	6.10E-04		2.48E-05	---	2.48E-05	1.08E-04
Nickel	2.10E-03		8.52E-05	---	8.52E-05	3.73E-04
POM	8.82E-05		3.58E-06	---	3.58E-06	1.57E-05
Selenium	2.40E-05		9.74E-07	---	9.74E-07	4.27E-06
Toluene	3.40E-03		1.38E-04	---	1.38E-04	6.04E-04

(1) All emission factors from AP-42 Chapter 1.4 "Natural Gas Combustion," Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4 (07/98). A natural gas heating value of 1,020 Btu/cf may be used as a conversion factor.

Emission Unit 12 - Steam Boiler #2

Equipment SB2 - 41.4 MMBtu/hr Steam Boiler #2 (Exhaust 003E002)

(No. 2 fuel oil combustion)

Pollutant	Emission Factor ⁽¹⁾ (lb/10 ³ gal)	Max. Capacity (MMBtu/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM	3.3	41.4	0.98	---	0.98	4.27
PM ₁₀	2.3		0.68	---	0.68	2.98
PM _{2.5}	1.8		0.52	---	0.52	2.27
SO ₂	7.1		2.10	---	2.10	9.20
NO _x	20		5.91	---	5.91	25.90
CO	5		1.48	---	1.48	6.48
VOC	0.2		0.06	---	0.06	0.26
Lead	1.26E-03		3.73E-04	---	3.73E-04	1.63E-03
Single HAP	---		---	---	---	---
Total HAPs	0.05		0.02	---	0.02	0.07
Arsenic	5.60E-04		1.66E-04	---	1.66E-04	7.25E-04
Benzene	2.14E-04		6.33E-05	---	6.33E-05	2.77E-04
Beryllium	4.20E-04		1.24E-04	---	1.24E-04	5.44E-04
Cadmium	4.20E-04		1.24E-04	---	1.24E-04	5.44E-04
Chromium	4.20E-04		1.24E-04	---	1.24E-04	5.44E-04
Ethyl benzene	6.36E-05		1.88E-05			
Formaldehyde	3.30E-02		9.76E-03	---	9.76E-03	0.04
Manganese	8.40E-04		2.48E-04	---	2.48E-04	1.09E-03
Mercury	4.20E-04		1.24E-04	---	1.24E-04	5.44E-04
Naphthalene	1.13E-03		3.34E-04	---	3.34E-04	1.46E-03
Nickel	4.20E-04		1.24E-04	---	1.24E-04	5.44E-04
POM	6.06E-05		1.79E-05	---	1.79E-05	7.85E-05
Selenium	2.10E-03		6.21E-04	---	6.21E-04	2.72E-03
Toluene	6.20E-03		1.83E-03	---	1.83E-03	8.03E-03
Trichloroethane	6.20E-03		1.83E-03	---	1.83E-03	8.03E-03

(1) All emission factors from AP-42 Chapter 1.3 "Fuel Oil Combustion," Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4 (07/98). A no. 2 fuel oil heating value of 140 MMBtu/10³gal may be used as a conversion factor. Where applicable, emission factors use the highest permitted fuel sulfur content. Particulate emission factors include condensable particulates.

Emission Unit 13 - Born Oil Heater

Discussion

1. The Born Oil Heater is permitted to operate on natural gas or no. 2 fuel oil with a fuel sulfur content $\leq 0.50\%$.
2. The summary for this emission unit presents the worst-case emissions by pollutant. For details on each fuel, please refer to the tables below.

Emission Unit Potential-to-Emit Summary (tons/yr)

Pollutant	BORN	Emission Unit 13 Total
PM	1.86	1.86
PM ₁₀	1.30	1.30
PM _{2.5}	0.99	0.99
SO ₂	39.98	39.98
NO _x	11.26	11.26
CO	6.49	6.49
VOC	0.43	0.43
Lead	7.10E-04	7.10E-04
Single HAP ⁽¹⁾	---	---
Total HAPs	0.15	0.15

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Equipment BORN - 18.0 MMBtu/hr Born T-66 Oil Heater (Exhaust 003E003) (Natural gas combustion)

Pollutant	Emission Factor ⁽¹⁾ (lb/MMscf)	Max. Capacity (MMBtu/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM	7.6	18.0	0.13	---	0.13	0.59
PM ₁₀	7.6		0.13	---	0.13	0.59
PM _{2.5}	7.6		0.13	---	0.13	0.59
SO ₂	0.60		0.01	---	0.01	0.05
NO _x	100		1.76	---	1.76	7.73
CO	84		1.48	---	1.48	6.49
VOC	5.50		0.10	---	0.10	0.43
Lead	5.00E-04		8.82E-06	---	8.82E-06	3.86E-05
Single HAP	---		---	---	---	---
Total HAPs	1.89		0.03	---	0.03	0.15
Arsenic	2.00E-04		3.53E-06	---	3.53E-06	1.55E-05
Benzene	2.10E-03		3.71E-05	---	3.71E-05	1.62E-04
Beryllium	1.20E-05		2.12E-07	---	2.12E-07	9.28E-07
Cadmium	1.10E-03		1.94E-05	---	1.94E-05	8.50E-05
Chromium	1.40E-03		2.47E-05	---	2.47E-05	1.08E-04
Cobalt	8.40E-05		1.48E-06	---	1.48E-06	6.49E-06
Dichlorobenzene	1.20E-03		2.12E-05	---	2.12E-05	9.28E-05
Formaldehyde	7.50E-02		1.32E-03	---	1.32E-03	5.80E-03
Hexane	1.80		0.03	---	0.03	0.14
Manganese	3.80E-04		6.71E-06	---	6.71E-06	2.94E-05
Mercury	2.60E-04		4.59E-06	---	4.59E-06	2.01E-05
Naphthalene	6.10E-04		1.08E-05	---	1.08E-05	4.71E-05
Nickel	2.10E-03		3.71E-05	---	3.71E-05	1.62E-04
POM	8.82E-05		1.56E-06	---	1.56E-06	6.82E-06
Selenium	2.40E-05		4.24E-07	---	4.24E-07	1.86E-06
Toluene	3.40E-03		6.00E-05	---	6.00E-05	2.63E-04

(1) All emission factors from AP-42 Chapter 1.4 "Natural Gas Combustion," Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4 (07/98). A natural gas heating value of 1,020 Btu/cf may be used as a conversion factor.

Emission Unit 13 - Born Oil Heater

Equipment BORN - 18 MMBtu/hr Born T-66 Oil Heater (*Exhaust 003E003*)
(No. 2 fuel oil combustion)

Pollutant	Emission Factor ⁽¹⁾ (lb/10 ³ gal)	Max. Capacity (MMBtu/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM	3.3	18.0	0.42	---	0.42	1.86
PM ₁₀	2.3		0.30	---	0.30	1.30
PM _{2.5}	1.8		0.23	---	0.23	0.99
SO ₂	71.0		9.13	---	9.13	39.98
NO _x	20		2.57	---	2.57	11.26
CO	5		0.64	---	0.64	2.82
VOC	0.2		0.03	---	0.03	0.11
Lead	1.26E-03		1.62E-04	---	1.62E-04	7.10E-04
Single HAP	---		---	---	---	---
Total HAPs	0.05		6.91E-03	---	6.91E-03	0.03
Arsenic	5.60E-04		7.20E-05	---	7.20E-05	3.15E-04
Benzene	2.14E-04		2.75E-05	---	2.75E-05	1.21E-04
Beryllium	4.20E-04		5.40E-05	---	5.40E-05	2.37E-04
Cadmium	4.20E-04		5.40E-05	---	5.40E-05	2.37E-04
Chromium	4.20E-04		5.40E-05	---	5.40E-05	2.37E-04
Ethyl benzene	6.36E-05		8.18E-06			
Formaldahyde	3.30E-02		4.24E-03	---	4.24E-03	0.02
Manganese	8.40E-04		1.08E-04	---	1.08E-04	4.73E-04
Mercury	4.20E-04		5.40E-05	---	5.40E-05	2.37E-04
Naphthalene	1.13E-03		1.45E-04	---	1.45E-04	6.36E-04
Nickel	4.20E-04		5.40E-05	---	5.40E-05	2.37E-04
POM	6.06E-05		7.79E-06	---	7.79E-06	3.41E-05
Selenium	2.10E-03		2.70E-04	---	2.70E-04	1.18E-03
Toluene	6.20E-03		7.97E-04	---	7.97E-04	3.49E-03
Trichloroethane	6.20E-03		7.97E-04	---	7.97E-04	3.49E-03

(1) All emission factors from AP-42 Chapter 1.3 "Fuel Oil Combustion," Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4 (07/98). A no. 2 fuel oil heating value of 140 MMBtu/10³gal may be used as a conversion factor. Where applicable, emission factors use the highest permitted fuel sulfur content. Particulate emission factors include condensible particulates.

Emission Unit 14 - Carotek Oil Heater

Discussion

1. The Carotek Oil Heater is permitted to operate on natural gas or no. 2 fuel oil with a fuel sulfur content $\leq 0.50\%$. Existing permit conditions limit no. 2 fuel oil consumption to no more than 1,098, 950 gallons per year. At a fuel oil heating value of 140,000 Btu/gal, this is an annualized heat input of approximately 17.6 MMBtu/hr.
2. The summary for this emission unit presents the worst-case emissions by pollutant. For details on each fuel, please refer to the tables below.

Emission Unit Potential-to-Emit Summary (tons/yr)

Pollutant	CARO	Emission Unit 14 Total
PM	1.82	1.82
PM ₁₀	1.27	1.27
PM _{2.5}	0.96	0.96
SO ₂	39.09	39.09
NO _x	12.02	12.02
CO	10.10	10.10
VOC	0.66	0.66
Lead	6.94E-04	6.94E-04
Single HAP ⁽¹⁾	---	---
Total HAPs	0.23	0.23

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Equipment CARO - 28.0 MMBtu/hr Carotek Oil Heater (Exhaust 003E004)

(Natural gas combustion)

Pollutant	Emission Factor ⁽¹⁾ (lb/MMscf)	Max. Capacity (MMBtu/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM	7.6	28.0	0.21	---	0.21	0.91
PM ₁₀	7.6		0.21	---	0.21	0.91
PM _{2.5}	7.6		0.21	---	0.21	0.91
SO ₂	0.60		0.02	---	0.02	0.07
NO _x	100		2.75	---	2.75	12.02
CO	84		2.31	---	2.31	10.10
VOC	5.50		0.15	---	0.15	0.66
Lead	5.00E-04		1.37E-05	---	1.37E-05	6.01E-05
Single HAP	---		---	---	---	---
Total HAPs	1.89		0.05	---	0.05	0.23
Arsenic	2.00E-04		5.49E-06	---	5.49E-06	2.40E-05
Benzene	2.10E-03		5.76E-05	---	5.76E-05	2.52E-04
Beryllium	1.20E-05		3.29E-07	---	3.29E-07	1.44E-06
Cadmium	1.10E-03		3.02E-05	---	3.02E-05	1.32E-04
Chromium	1.40E-03		3.84E-05	---	3.84E-05	1.68E-04
Cobalt	8.40E-05		2.31E-06	---	2.31E-06	1.01E-05
Dichlorobenzene	1.20E-03		3.29E-05	---	3.29E-05	1.44E-04
Formaldehyde	7.50E-02		2.06E-03	---	2.06E-03	9.02E-03
Hexane	1.80		0.05	---	0.05	0.22
Manganese	3.80E-04		1.04E-05	---	1.04E-05	4.57E-05
Mercury	2.60E-04		7.14E-06	---	7.14E-06	3.13E-05
Naphthalene	6.10E-04		1.67E-05	---	1.67E-05	7.33E-05
Nickel	2.10E-03		5.76E-05	---	5.76E-05	2.52E-04
POM	8.82E-05		2.42E-06	---	2.42E-06	1.06E-05
Selenium	2.40E-05		6.59E-07	---	6.59E-07	2.89E-06
Toluene	3.40E-03		9.33E-05	---	9.33E-05	4.09E-04

(1) All emission factors from AP-42 Chapter 1.4 "Natural Gas Combustion," Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4 (07/98). A natural gas heating value of 1,020 Btu/cf may be used as a conversion factor.

Emission Unit 14 - Carotek Oil Heater

Equipment CARO - 28.0 MMBtu/hr Carotek Oil Heater (Exhaust 003E004)
(No. 2 fuel oil combustion)

Pollutant	Emission Factor ⁽¹⁾ (lb/10 ³ gal)	Max. Capacity (MMBtu/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate ⁽²⁾ (tons/yr)
PM	3.3	28.0	0.66	---	0.66	1.82
PM ₁₀	2.3		0.46	---	0.46	1.27
PM _{2.5}	1.8		0.35	---	0.35	0.96
SO ₂	71.0		14.20	---	14.20	39.09
NO _x	20		4.00	---	4.00	11.01
CO	5		1.00	---	1.00	2.75
VOC	0.2		0.04	---	0.04	0.11
Lead	1.26E-03		2.52E-04	---	2.52E-04	6.94E-04
Single HAP	---		---	---	---	---
Total HAPs	0.05		0.01	---	0.01	0.03
Arsenic	5.60E-04		1.12E-04	---	1.12E-04	3.08E-04
Benzene	2.14E-04		4.28E-05	---	4.28E-05	1.18E-04
Beryllium	4.20E-04		8.40E-05	---	8.40E-05	2.31E-04
Cadmium	4.20E-04		8.40E-05	---	8.40E-05	2.31E-04
Chromium	4.20E-04		8.40E-05	---	8.40E-05	2.31E-04
Ethyl benzene	6.36E-05		1.27E-05	---	1.27E-05	3.50E-05
Formaldehyde	3.30E-02		6.60E-03	---	6.60E-03	0.02
Manganese	8.40E-04		1.68E-04	---	1.68E-04	4.63E-04
Mercury	4.20E-04		8.40E-05	---	8.40E-05	2.31E-04
Naphthalene	1.13E-03		2.26E-04	---	2.26E-04	6.22E-04
Nickel	4.20E-04		8.40E-05	---	8.40E-05	2.31E-04
POM	6.06E-05		1.21E-05	---	1.21E-05	3.34E-05
Selenium	2.10E-03		4.20E-04	---	4.20E-04	1.16E-03
Toluene	6.20E-03		1.24E-03	---	1.24E-03	3.41E-03
Trichloroethane	6.20E-03		1.24E-03	---	1.24E-03	3.41E-03

(1) All emission factors from AP-42 Chapter 1.3 "Fuel Oil Combustion," Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4 (07/98). A no. 2 fuel oil heating value of 140 MMBtu/10³gal may be used as a conversion factor. Where applicable, emission factors use the highest permitted fuel sulfur content. Particulate emission factors include condensable particulates.

(2) Controlled annual emission rate reflects the existing permit limit of 1,098,950 gallons per year.

Emission Unit 15 - G3 Film Line

Discussion

1. For emissions calculations for the G3 Coater 1 (G3CG1) and G3 Oven (G3C), all emissions are assumed to occur in the first zone of G3C (Exhaust ID 026E010). Please refer to the original calculations submitted with the G3 permit application for additional details. G3C is electric, and therefore no fuel combustion emissions will occur.
2. The G3 Coater 2 unit (G3GC2) has not yet been installed. 3M will address emissions for the unit at the time of its installation.
3. The uncontrolled particulate emission factor of [CONFIDENTIAL] pounds of particulates per pound of raw material (lb/lb RM) is derived based on a controlled test result of [CONFIDENTIAL] lbs PM/1,000 lbs RM, from the D-3 Edge Trim Grinder Cyclone test performed at 3M Decatur on July 25-26, 1989, back-calculated based on a cyclone control efficiency
4. The uncontrolled particulate emission factor of [CONFIDENTIAL] lb/lb RM is derived based on a controlled test result of [CONFIDENTIAL] lbs PM/1,000 lbs RM, from the D-3 Feed Cyclone Test performed at 3M Decatur on July 25-26, 198, back-calculated based on a cyclone control efficiency of 80%.
5. The uncontrolled particulate emission factor of [CONFIDENTIAL] lb/lb RM is derived based on a controlled test result of [CONFIDENTIAL] lbs PM/1,000 lbs RM, from the D-3 Floor Scrap Grinder Cyclone Test performed at 3M Decatur on July 25-26, 198, back-calculated based on a cyclone control efficiency of 80%.
6. The uncontrolled particulate emission factor of [CONFIDENTIAL] lb/lb RM is derived based on the average of the controlled test results of [CONFIDENTIAL] lbs PM/1,000 lbs RM and [CONFIDENTIAL] lbs PM/1,000 lbs RM, respectively from the D-3 Floor Scrap Silo Cyclone Test and the D-3 Edge Trim Silo Cyclone Test, both performed at 3M Decatur on July 25-26, 1989, and back-calculated based on a cyclone control efficiency of 80%
7. The G3 Die Casting Wheel (Equipment ID G3CW) is [CONFIDENTIAL]. The maximum throughput for G3CW is [CONFIDENTIAL] lbs/hr, and therefore, [CONFIDENTIAL]. This maximum, [CONFIDENTIAL] lb/hr throughput is [CONFIDENTIAL]. The emission factor for the G3CW unit, itself--as stated in the G3 permit amendment application--originates from testing performed on April 8, 1992 at the 3M Cottage Grove facility. See the emission calculations for details.
8. The maximum throughput for the Floor Scrap and Edge Trim grinders, the associated airveying equipment, and the receipt reclaim silos, assumes the maximum throughput rate for [CONFIDENTIAL], and assuming an equal division of scrap between: [CONFIDENTIAL]. Emissions from the grinders would result from airveying of the material; would-be emissions are controlled by a baghouse.
9. The maximum throughput for all G3 Pellet Silos, operated simultaneously, from the G3 operating permit application.

Emission Unit Potential-to-Emit Summary (tons/yr)

Pollutant	G3CG1 G3C	G3GC2	G3ASP1 G3ASP2	G3XT1 G3XT2 G3XT3 G3XT4	G3H1 G3H2 G3H3 G3D	G3FSGR1 G3FSGR2 G3FSGR3 G3FSGR4 G3FS	G3ETGR1 G3ETGR2 G3ETGR3 G3ET	G3TL & G3BL	G3CW	G3FSILO1 G3FSILO2	G3VSILO1 G3VSILO2 G3VSILO3 G3VSILO4 G3VSILO5	G3 Mix Room	Emission Unit 15 Total
PM	---	N/A	0.02	---	0.02	0.04	0.02	0.01	5.40	N/A	0.03	---	5.52
PM ₁₀	---	N/A	0.02	---	0.02	0.04	0.02	0.01	5.40	N/A	0.03	---	5.52
PM _{2.5}	---	N/A	0.02	---	0.02	0.04	0.02	0.01	5.40	N/A	0.03	---	5.52
SO ₂	---	N/A	---	---	---	---	---	---	---	N/A	---	---	---
NO _x	---	N/A	---	---	---	---	---	---	---	N/A	---	---	---
CO	---	N/A	---	---	---	---	---	---	---	N/A	---	---	---
VOC	8.76	N/A	---	37.56	---	---	---	---	---	N/A	---	0.01	46.32
Lead	---	N/A	---	---	---	---	---	---	---	N/A	---	---	---
Single HAP ⁽¹⁾	---	N/A	---	35.81	---	---	---	---	---	N/A	---	---	35.81
Total HAPs	11.60	N/A	---	36.79	---	---	---	---	---	N/A	---	0.01	48.40

(1) Total facility maximum single hap is chlorobenzene; sources that do not emit this HAP are not included.

Emission Unit 15 - G3 Film Line

Equipment G3CG1 - G3 Coater 1 (Exhaust 026E005)

(Nearly all emissions from coating are expected to occur as the product enters the G3 Oven; emission calculations assume all G3G1 or G3C emissions occur in the first zone of the G3 Oven, Exhaust ID 026E010)

Equipment G3CG2 - G3 Coater 2 (Exhaust 026E019)

(The G3 Coater 2 unit has not yet been installed. 3M will address emissions for the unit at the time of its installation.)

Equipment G3C - G3 Oven (Exhausts 026E010, 011, 012, 013, 014, 015, 016, 027, 028)

Pollutant	Emission Factor ⁽¹⁾ (lbs/gal)	Max. Capacity ⁽²⁾ (gal/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			2.00	---	2.00	8.76
Lead			---	---	---	---
Single HAP			1.09	---	1.09	4.76
Total HAPs			2.65	---	2.65	11.60
Acrylonitrile			0.02	---	0.02	0.09
Ethyl acrylate			0.08	---	0.08	0.37
Ethylene Glyco			0.05	---	0.05	0.21
Ethylene Imine			9.45E-09	---	9.45E-09	4.14E-08
Formaldehyde			0.36	---	0.36	1.57
Hexane			7.25E-04	---	7.25E-04	3.18E-03
Methanol			0.72	---	0.72	3.14
MEK			0.12	---	0.12	0.55
MMA			0.03	---	0.03	0.12
Triethylamine			0.18	---	0.18	0.79
Vinylidene Cl			1.09	---	1.09	4.76

(1) Worst-case emission factors from a composite of all coatings, back-calculated based on the uncontrolled emission rate and the listed maximum capacity.

(2) Maximum coating capacity, from the original G3 permit application submitted on December 22, 2006.

Emission Unit 15 - G3 Film Line

G3 Feed Hopper/Aspirators (Exhaust 026E007)

(G3ASP1 - G3 Feed Hopper/Aspirator 1; G3ASP2 - G3 Feed Hopper/Aspirator 2)

Pollutant	Emission Factor ⁽¹⁾ (lbs/lb RM)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽³⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			0.40	99.0%	4.00E-03	0.02
PM ₁₀			0.40	99.0%	4.00E-03	0.02
PM _{2.5}			0.40	99.0%	4.00E-03	0.02
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor based on the 3M Decatur D-3 Feed Cyclone Test, July 25-26, 1989. See discussion for details.

(2) Maximum capacity is for the total of the listed equipment; assuming [CONFIDENTIAL].

(3) Control efficiency for the BH15 baghouse, from the submitted G3 calculations.

Emission Unit 15 - G3 Film Line

G3 Extruders (Exhaust 026E007)

(G3XT1 - G3 Extruder 1; G3XT2 - G3 Extruder 2; G3XT3 - G3 Extruder 3; G3XT4 - G3 Extruder 4)

Pollutant	Emission Factor ⁽¹⁾ (lbs/lb RM)	Max. Capacity (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM				---	---	---
PM ₁₀				---	---	---
PM _{2.5}				---	---	---
SO ₂				---	---	---
NO _x				---	---	---
CO				---	---	---
VOC			8.58	---	8.58	37.56
Lead			---	---	---	---
Single HAP ⁽²⁾			8.18	---	8.18	35.81
Total HAPs			8.40	---	8.40	36.79
Acetaldehyde			0.12	---	0.12	0.55
Chlorobenzene			8.18	---	8.18	35.81
Methanol			0.05	---	0.05	0.22
Methylene Cl			0.02	---	0.02	0.09
Phenol			0.04	---	0.04	0.18
Toluene			0.05	---	0.05	0.22

(1) Worst-case emissions factors from the G3 permit amendment application, citing 3M Greenville stack testing and the comparison of different possible products. Total HAPs is based on worst-case product and may not reflect the sum of all worst-case factors. Please refer to the original application for details.

(2) Maximum single HAP is chlorobenzene; this is not additive with the speciated pollutants identified in this table.

Emission Unit 15 - G3 Film Line

G3 Pellet Dryer & Resin Hoppers (Exhaust 026E007)

(G3D - G3 Pellet Dryer; G3H1 - Resin Charging Hopper 1; G3H2 - Resin Charging Hopper 2; G3H3 - Resin Charging Hopper 3;

Pollutant	Emission Factor ⁽¹⁾ (lbs/lb RM)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽³⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			0.40	99.0%	4.00E-03	0.02
PM ₁₀			0.40	99.0%	4.00E-03	0.02
PM _{2.5}			0.40	99.0%	4.00E-03	0.02
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor based on the 3M Decatur D-3 Feed Cyclone Test, July 25-26, 1989. See discussion for details.

(2) Maximum capacity is for the total of the listed equipment; assuming [CONFIDENTIAL].

(3) Control efficiency for the BH15 baghouse, from the submitted G3 calculations.

G3 Floor Scrap Grinders & Airveying (Exhaust 026E006)

(G3FSGR1 - G3 Floor Scrap Grinder 1; G3FSGR2 - G3 Floor Scrap Grinder 2; G3FSGR3 - G3 Floor Scrap Grinder 3; G3FSGR4 - G3 Floor Scrap Grinder 4;

G4FS - G3 Floor Scrap Airveying)

Pollutant	Emission Factor ⁽¹⁾ (lbs/lb RM)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽³⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			0.85	99.0%	8.48E-03	0.04
PM ₁₀			0.85	99.0%	8.48E-03	0.04
PM _{2.5}			0.85	99.0%	8.48E-03	0.04
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor based on the 3M Decatur D-3 Floor Scrap Grinder Cyclone Test, July 25-26, 1989. See discussion for details.

(2) Maximum capacity is for the total of the listed equipment, derived as described in the discussion section.

(3) Control efficiency for the BH14 baghouse, from the submitted G3 calculations.

Emission Unit 15 - G3 Film Line

G3 Edge Trim Grinders & Airveying (Exhaust 026E006)

(G3FSGR1 - G3 Floor Scrap Grinder 1; G3FSGR2 - G3 Floor Scrap Grinder 2; G3FSGR3 - G3 Floor Scrap Grinder 3; G3FSGR4 - G3 Floor Scrap Grinder 4; G4FS - G3 Floor Scrap Airveying)

Pollutant	Emission Factor ⁽¹⁾ (lbs/lb RM)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽³⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			0.50	99.0%	4.96E-03	0.02
PM ₁₀			0.50	99.0%	4.96E-03	0.02
PM _{2.5}			0.50	99.0%	4.96E-03	0.02
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor based on the 3M Decatur D-3 Edge Trim Grinder Cyclone Test, July 25-26, 1989. See discussion for details.

(2) Maximum capacity is for the total of the listed equipment, derived as described in the discussion section. Throughput for [CONFIDENTIAL].

(3) Control efficiency for the BH14 baghouse, from the submitted G3 calculations.

Equipment G3TL - G3 Flake Truck Loadout (Exhaust 026E006)

Pollutant	Emission Factor ⁽¹⁾ (lbs/lb RM)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽³⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			0.13	99.0%	1.27E-03	5.55E-03
PM ₁₀			0.13	99.0%	1.27E-03	5.55E-03
PM _{2.5}			0.13	99.0%	1.27E-03	5.55E-03
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor based on the 3M Decatur D-3 Feed Cyclone Test, July 25-26, 1989. See discussion for details.

(2) Maximum capacity is derived as described in the discussion section relating to the reclaim silos.

(3) Control efficiency for the BH14 baghouse, from the submitted G3 calculations.

Emission Unit 15 - G3 Film Line

Equipment G3BL - G3 Flake Box Loadout (*Exhaust 009E015*)

Pollutant	Emission Factor ⁽¹⁾ (lbs/lb RM)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽³⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			0.13	99.9%	1.27E-04	5.55E-04
PM ₁₀			0.13	99.9%	1.27E-04	5.55E-04
PM _{2.5}			0.13	99.9%	1.27E-04	5.55E-04
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor based on the 3M Decatur DD-3 Floor Scrap Silo Cyclone and D-3 Edge Trim Silo Cyclone tests, July 25-26, 1989. See discussion for details.

(2) Maximum capacity is derived as described in the discussion section relating to the reclaim silos.

(3) Control efficiency for the BH1 baghouse, from the submitted G3 calculations.

Equipment G3CW - G3 Die Casting Wheel (*Exhausts 026E021, 023*)

Pollutant	Emission Factor ⁽¹⁾ (lbs/lb RM)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			1.23	---	1.23	5.40
PM ₁₀			1.23	---	1.23	5.40
PM _{2.5}			1.23	---	1.23	5.40
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor based on the 3M Cottage Grove testing performed on April 8, 1992. See discussion for details.

(2) Maximum capacity is derived as described in the discussion section relating to the Die Casting Wheel.

Emission Unit 15 - G3 Film Line

G3 Clear & Color Flake Silos (No Exhaust)

(G3FSILO1 - G3 Clear Flake Silo; G3FSILO2 - G3 Color Flake Silo)

(No emission calculations performed; unit has no vent for emissions)

G3 Pellet Silos (Exhaust 026H007)

(G3VSILO1 - G3 Pellet Silo 1; G3VSILO2 - G3 Pellet Silo 2; G3VSILO3 - G3 Pellet Silo 3; G3VSILO4 - G3 Pellet Silo 4; G3VSILO5 - G3 Pellet Silo 5,

Pollutant	Emission Factor ⁽¹⁾ (lbs/lb RM)	Max. Capacity ⁽²⁾ (lbs/hr)	Emission Rate (lbs/hr)	Control Efficiency ⁽³⁾ (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			0.60	99.0%	6.00E-03	0.03
PM ₁₀			0.60	99.0%	6.00E-03	0.03
PM _{2.5}			0.60	99.0%	6.00E-03	0.03
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			---	---	---	---
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			---	---	---	---

(1) Emission factor based on the 3M Decatur D-3 Feed Cyclone Test, July 25-26, 1989. See discussion for details.

(2) Maximum capacity is for the total of the listed equipment, derived as described in the discussion section.

(3) Control efficiency for the BH15 baghouse, from the submitted G3 calculations.

Emission Unit 15 - G3 Film Line

G3 Mix Room (Exhaust 026E0030))

(G3MRTK1 - G3 Mix Room Tank 1; G3MRTK2 - G3 Mix Room Tank 2; G3MRTK3 - G3 Mix Room Tank 3; G3MRTK4 - G3 Mix Room Tank 4; G3MRSC1 - G3 Mix Room Storage 1; G3MRSC2 - G3 Mix Room Storage 2; G3MRSC3 - G3 Mix Room Storage 3; G3MRH1 - G3 Mix Room Hood 1; G3MRH2 - G3 Mix Room Hood 2; G3MRH3 - G3 Mix Room Hood 3)

Pollutant	Emission Factor ⁽¹⁾ (lbs/batch)	Max. Capacity ⁽²⁾ (batch/hr)	Emission Rate (lbs/hr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM			---	---	---	---
PM ₁₀			---	---	---	---
PM _{2.5}			---	---	---	---
SO ₂			---	---	---	---
NO _x			---	---	---	---
CO			---	---	---	---
VOC			1.22E-03	---	1.22E-03	5.34E-03
Lead			---	---	---	---
Single HAP			---	---	---	---
Total HAPs			1.20E-03	---	1.20E-03	5.24E-03
Ethylene glycol			2.30E-08	---	2.30E-08	1.01E-07
Formaldehyde			1.08E-03	---	1.08E-03	4.72E-03
Methanol			1.06E-04	---	1.06E-04	4.65E-04
Triethylamine			1.33E-05	---	1.33E-05	5.84E-05

(1) Emission factors from Emission Master software specific to the G3 Mix Room and all equipment modeled therein, as presented in [CONFIDENTIAL].

(2) Maximum capacity reflects the maximum number of batches that can be processed per hour; where applicable, a value less than 1.0 indicates a batch time greater than 1.0 hours.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification:	FOT1
City:	Greenville
State:	South Carolina
Company:	3M Company
Type of Tank:	Vertical Fixed Roof Tank
Description:	3M Greenville Film - Greenville, SC Distillate Fuel Oil Tank 1 200,000 gallons

Tank Dimensions

Shell Height (ft):	31.60
Diameter (ft):	33.00
Liquid Height (ft) :	31.00
Avg. Liquid Height (ft):	15.00
Volume (gallons):	200,000.00
Turnovers:	28.74
Net Throughput(gal/yr):	5,700,000.00
Is Tank Heated (y/n):	Y

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition:	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Dome
Height (ft)	0.00
Radius (ft) (Dome Roof)	33.00

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meteorological Data used in Emissions Calculations: Greenville-S'burg, South Carolina (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d **Emissions Report - Detail Format** **Liquid Contents of Storage Tank**

FOT1 - Vertical Fixed Roof Tank
Greenville, South Carolina

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract	Vapor Mass Fract	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg	Min.	Max.		Avg	Min	Max.					
Distillate fuel oil no. 2	All	56.00	11.00	101.00	0.00	0.0057	0.0031	0.0220	130.0000			188.00	Option 1: VP50 = .0045 VP60 = .0065

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

FOT1 - Vertical Fixed Roof Tank
Greenville, South Carolina

Annual Emission Calculations

Standing Losses (lb):	137.8891
Vapor Space Volume (cu ft):	16,133.9123
Vapor Density (lb/cu ft):	0.0001
Vapor Space Expansion Factor:	0.1759
Vented Vapor Saturation Factor:	0.9943
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	16,133.9123
Tank Diameter (ft):	33.0000
Vapor Space Outage (ft):	18.8635
Tank Shell Height (ft):	31.6000
Average Liquid Height (ft):	15.0000
Roof Outage (ft):	2.2635
Roof Outage (Dome Roof)	
Roof Outage (ft):	2.2635
Dome Radius (ft):	33.0000
Shell Radius (ft):	16.5000
Vapor Density	
Vapor Density (lb/cu ft):	0.0001
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid	
Surface Temperature (psia):	0.0057
Daily Avg. Liquid Surface Temp. (deg. R):	515.6700
Daily Average Ambient Temp. (deg. F):	59.9583
Ideal Gas Constant R	
(psia cu ft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	459.6700
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation	
Factor (Btu/sqft day):	1,411.2698
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.1759
Daily Vapor Temperature Range (deg. R):	90.0000
Daily Vapor Pressure Range (psia):	0.0189
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid	
Surface Temperature (psia):	0.0057
Vapor Pressure at Daily Minimum Liquid	
Surface Temperature (psia):	0.0031
Vapor Pressure at Daily Maximum Liquid	
Surface Temperature (psia):	0.0220
Daily Avg. Liquid Surface Temp. (deg R):	515.6700
Daily Min. Liquid Surface Temp. (deg R):	470.6700
Daily Max. Liquid Surface Temp. (deg R):	560.6700
Daily Ambient Temp. Range (deg. R):	21.5000
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9943
Vapor Pressure at Daily Average Liquid:	
Surface Temperature (psia):	0.0057
Vapor Space Outage (ft):	18.8635
Working Losses (lb):	100.5643
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid	
Surface Temperature (psia):	0.0057
Annual Net Throughput (gall/yr.):	5,700,000.0000
Annual Turnovers:	28.7384
Turnover Factor:	1.0000
Maximum Liquid Volume (gall):	200,000.0000
Maximum Liquid Height (ft):	31.0000
Tank Diameter (ft):	33.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	238.4534

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

FOT1 - Vertical Fixed Roof Tank
Greenville, South Carolina

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Distillate fuel oil no. 2	100.56	137.89	238.45

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification:	FOT2
City:	Greenville
State:	South Carolina
Company:	3M Company
Type of Tank:	Vertical Fixed Roof Tank
Description:	3M Greenville Film - Greenville, SC Distillate Fuel Oil Tank 2 100,000 gallons

Tank Dimensions

Shell Height (ft):	23.75
Diameter (ft):	27.00
Liquid Height (ft) :	23.00
Avg. Liquid Height (ft):	11.50
Volume (gallons):	100,000.00
Turnovers:	28.74
Net Throughput(gal/yr):	2,840,000.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition:	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Dome
Height (ft)	0.00
Radius (ft) (Dome Roof)	27.00

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meteorological Data used in Emissions Calculations: Greenville-S'burg, South Carolina (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

FOT2 - Vertical Fixed Roof Tank
Greenville, South Carolina

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg	Min.	Max.		Avg.	Min.	Max.					
Distillate fuel oil no. 2	All	61.86	56.32	67.41	59.98	0.0070	0.0058	0.0084	130.0000			188.00	Option 1: VP60 = .0065 VP70 = .009

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

FOT2 - Vertical Fixed Roof Tank
Greenville, South Carolina

Annual Emission Calculations

Standing Losses (lb):	20.2780
Vapor Space Volume (cu ft):	8,074.1412
Vapor Density (lb/cu ft):	0.0002
Vapor Space Expansion Factor:	0.0427
Vented Vapor Saturation Factor:	0.9948
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	8,074.1412
Tank Diameter (ft):	27.0000
Vapor Space Outage (ft):	14.1019
Tank Shell Height (ft):	23.7500
Average Liquid Height (ft):	11.5000
Roof Outage (ft):	1.8519
Roof Outage (Dome Roof)	
Roof Outage (ft):	1.8519
Dome Radius (ft):	27.0000
Shell Radius (ft):	13.5000
Vapor Density	
Vapor Density (lb/cu ft):	0.0002
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0070
Daily Avg. Liquid Surface Temp. (deg. R):	521.5349
Daily Average Ambient Temp. (deg. F):	59.9583
Ideal Gas Constant R (psia-cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	519.6483
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insolation Factor (Btu/sqft day):	1,411.2698
Vapor Space Expansion Factor:	
Vapor Space Expansion Factor:	0.0427
Daily Vapor Temperature Range (deg. R):	22.1976
Daily Vapor Pressure Range (psia):	0.0026
Breather Vent Press. Setting Range (psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0070
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0058
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0084
Daily Avg. Liquid Surface Temp. (deg. R):	521.5349
Daily Min. Liquid Surface Temp. (deg. R):	515.9955
Daily Max. Liquid Surface Temp. (deg. R):	527.0843
Daily Ambient Temp. Range (deg. R):	21.5030
Vented Vapor Saturation Factor:	
Vented Vapor Saturation Factor:	0.9948
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0070
Vapor Space Outage (ft):	14.1019
Working Losses (lb):	61.2364
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0070
Annual Net Throughput (gal/yr.):	2,840,000.0000
Annual Turnovers:	28.7384
Turnover Factor:	1.0000
Maximum Liquid Volume (gal):	100,000.0000
Maximum Liquid Height (ft):	23.0000
Tank Diameter (ft):	27.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	81.5144

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

FOT2 - Vertical Fixed Roof Tank
Greenville, South Carolina

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Distillate fuel oil no. 2	61.24	20.28	81.51

Attachment C

Process Flow Diagrams & Detailed Process Description

Process flow diagrams and their descriptions are confidential and are therefore not included in this public copy of this permit application.

Attachment D

Facility Stack/Vent Diagram

Legend

Sources:		Structures:	Height (ft):
1.	<u>001E-112</u>	A. Methanol Tank	18.21
2.	<u>001E-002</u>	B. Glycol Tank	17.59
3.	001E-097	C. Glycol Tank	19.06
4.	001E-098	D. No. 6 Oil Tank	33.47
5.	001E-099	E. No. 2 Oil Tank	29.27
6.	001E-101	F. Liquid Nitrogen Tank	20.01
7.	001E-101	G. Liquid Nitrogen Tank	20.01
8.	001E-103	H. Building 12	20.75
9.	<u>001E-057</u>	I. Building 2	21.18
10.	<u>003E-001</u>	J. Building 3	30.00
11.	003E-002	K. HVAC	12.50
12.	003E-003	L. Cooling Tower	12.50
13.	003E-004	M. Building 10	21.07
14.	007E-001	N. Truck Dock	15.00
15.	007E-002	O. Building 9	28.67
16.	007E-003	P. Tank	15.00
17.	007E-004	Q. Tank	15.00
18.	888E-036 <i>007E-005</i>	R. (Top to Bottom)	
19.	<u>007E-007</u>	Tank	15.00
21.	007E-008	Tank	15.00
22.	007E-073	Tank	30.00
23.	008E-001	S. (Left to Right)	
24.	009E-014	Tank	30.00
25.	009E-015	Tank	30.00
26.	888E-001	Tank	75.00
27.	888E-002	Tank	75.00
28.	888E-003	Tank	75.00
29.	888E-004	Tank	75.00
30.	888E-005	Tank	75.00
31.	888E-006	T. (Left to Right)	
32.	888E-007	Tank	75.00
33.	888E-008	Tank	75.00
34.	888E-009	Tank	75.00
35.	<u>888E-037</u>	Tank	75.00
36.	<u>888E-035</u>	Tank	75.00
		U. Building 7	54.75
		V. Building 8	55.75
		W. Building 1-A	24.00
		X. Building 1-B	32.00
		Y. Building 1-C	42.75
		Z. Building 1-D	61.60
		AA. Building 1-E	104.01
		AB. Building 1-F	96.34

Attachment E

Permit Markup

PLEASE NOTE: FOR BREVITY, PAGES
WITHOUT PROPOSED CHANGES OR
OTHER MARKUPS ARE NOT INCLUDED.



Part 70 Air Quality Permit

3M Company (Greenville Film Plant)
1400 Perimeter Road
Greenville, SC 29605

In accordance with the provisions of the Pollution Control Act, Sections 48-1-50(5) and 48-1-110(a), and the 1976 Code of Laws of South Carolina, as amended, Regulation 61-62, the above named permittee is hereby granted permission to discharge air contaminants into the ambient air. The Bureau of Air Quality authorizes the operation of this facility and its applicable equipment specified herein in accordance with the plans, specifications and other information submitted in the Title V permit application dated November 04, 2003.

This permit is subject to and conditioned upon the terms, limitations, standards, and schedules contained in or specified on the 36 pages, with the accompanying attachments, of this permit.

Permit Number: TV-1200-0073
Issue Date: November 22, 2005

Effective Date: January 01, 2006
Expiration Date: December 31, 2010

Director, Engineering Services Division
Bureau of Air Quality

Additional applicable
NAICS code

PART 1.0 GENERAL INFORMATION

A. APPLICABLE PERMIT DATES

ISSUE DATE : November 22, 2005
EFFECTIVE DATE : January 1, 2006
EXPIRATION DATE : December 31, 2010

RENEWAL APPLICATION DUE : June 30, 2010

B. FACILITY INFORMATION

ENVIRONMENTAL CONTACT : Barry Stone
CONTACT TELEPHONE NUMBER : 864-299-4369
INTERNET E-MAIL ADDRESS : blstone@mmm.com
FACILITY LOCATION : 1400 Perimeter Road - Greenville
COUNTY : Greenville
SIC CODE(S) : 3081, 3861
NAICS CODE(S) : 326113, 325992, 333315
AFS CODE : 4504500073

C. FACILITY ADDRESS

FACILITY NAME : 3M Company (Greenville Film Plant)
ADDRESS : 1400 Perimeter Road
CITY, STATE, ZIP : Greenville, SC 29605

D. FACILITY BILLING ADDRESS

FACILITY BILLING NAME : 3M Company (Greenville Film Plant)
ADDRESS : 1400 Perimeter Road
CITY, STATE, ZIP : Greenville, SC 29605

1408

3M Company (Greenville Film Plant)

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(Updated 8/27/09)

Condition Number	Condition
4.B.7	The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, Protection of Stratospheric Ozone, Recycling and Emissions Reduction, except as provided for motor vehicle air conditioners (MVACs) in Subpart B. If the permittee performs a service on motor (fleet) vehicles that involves ozone-depleting substance refrigerant in MVACs, the permittee is subject to all applicable requirements of 40 CFR Part 82, Subpart B, Servicing of MVACs.
4.B.8	The permittee shall comply with the standards of performance for asbestos abatement operations pursuant to 40 CFR Part 61.145 and SC Regulation 61-86.1, including, but not limited to, requirements governing training, licensing, notification, work practice, cleanup, and disposal.
4.B.9	3M Company's Film Plant (1200-0073) and Tape Plant (1200-0148) are considered one facility for BACT/LAER purposes. This facility (Film Plant and Tape Plant) made application submittal for a maximum potential VOC facility emission rate of 1098.2 tons per year. The facility must comply with SC Regulation 61-62.1, II,A before the facility may increase VOC emissions over the 1098.2 TPY permit limit. Increases in the VOC emissions from this facility may be subject to the requirements of SC Regulation 61-62.5, Standard 5.1, Best Available Control Technology (BACT)/Lowest Achievable Emission Rate ("LAER") Applicable to Volatile Organic Compounds. 3M Company must use the emissions from both plants when addressing emission concerns. In the event that one of the plants is sold, the emission rates at that time will be frozen and BACT/LAER applied to each plant individually.
4.B.10	This facility is subject to the provisions of 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants, Subparts A and JJJ, Group IV Polymers and Resins. Existing affected sources shall comply with the applicable provisions of Subparts A and JJJ no later than June 19, 2001 unless otherwise noted in the Subparts for any specific provisions (40 CFR 63.1331). Any new affected sources shall comply with the requirements of these Subparts upon initial start-up unless otherwise noted for any specific provisions (40 CFR 63.1331). The existing affected sources subject to 63.1331 shall be in compliance by August 27, 2001 or upon start-up for new affected sources.
4.B.11	This facility is subject to the provisions of 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants, Subparts A and JJJJ, Paper and Other Web Coating. Existing affected sources shall comply with the applicable provisions of Subparts A and JJJJ no later than December 05, 2005 unless otherwise noted in the Subparts for any specific provisions. Any new affected sources shall comply with the requirements of these Subparts upon initial start-up unless otherwise noted for any specific provisions.
4.B.12	This facility is subject to the provisions of 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants, Subparts A and DDDDD, Industrial, Commercial, And Institutional Boilers And Process Heaters. Existing affected sources shall comply with the applicable provisions of Subparts A and DDDDD no later than September 13, 2007 unless otherwise noted in the Subparts for any specific provisions. In accordance with 63.7506(b)(1) and (b)(2), the existing boilers and process heaters at 3M Film are only subject to the initial notification requirements listed in 63.9(b). Any new affected sources shall comply with the requirements of these Subparts upon initial start-up unless otherwise noted for any specific provisions.

H

PART 5.0 EMISSION UNIT REQUIREMENTS

A. EMISSION UNIT DESCRIPTION

Table 5.1 is a description of emission units located at this facility.

3M Company (Greenville Film Plant)

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(Updated 8/27/09)

REDO TABLE 5.1 TO MATCH CHANGES IDENTIFIED IN FORM C (APPENDIX A).

TABLE 5.1 EMISSION UNITS		
Unit ID	Unit Description	Control Device Description
01	Raw Materials Preparation Section	N/A
02	Polymerization Reaction /Material Recovery Section	Baghouse, After-Condenser ¹
03	Resin Train 1/2	N/A
04	G1 Film Line	Baghouse
05	G2 Film Line	Baghouses
06	Tank Farm	N/A
07	Visual Converting Process	Baghouse
08	PET Reclaim Process	Baghouses
09	Box/Tote Material Handling	Baghouse
10	G1/G2 Dryer Material Handling	Dryer Tower Baghouse G1(BH13), Dryer Tower Baghouse G2 (BH5)
11	Steam Boiler #1	N/A
12	Steam Boiler #2	N/A
13	Born Oil Heater	N/A
14	Carotek Oil Heater	N/A
15	G3 Film Line	Baghouses

N/A = Not Applicable
(page updated 10/17/07)

B. CONTROL DEVICE DESCRIPTION

REDO TABLE 5.2 TO MATCH CHANGES IDENTIFIED IN FORM C (APPENDIX A).

TABLE 5.2 CONTROL DEVICES			
Control Device ID	Control Device Description	Installation Date	Pollutant(s) Controlled
BH1	09 (BTLU) Baghouse	1982	Particulates
BH2	02 (VSILO) Baghouse	1972	Particulates
BH3	08 (RSILO) Baghouse	1972	Particulates
BH4	08 (FSILO) Baghouse	1982	Particulates
BH5	10 (DTOW2) Baghouse	1972 (1982)	Particulates
BH6	05 (G2GR) Baghouse	1982 (2002)	Particulates
BH7	04 (G1GR) Baghouse	1982 (2002)	Particulates
BH9	07 (VSET) Baghouse	1997	Particulates
BH10	08 (RBLD, RVAC) Baghouse	1998	Particulates
BH11	05 (G2ET) Baghouse	2002	Particulates
BH12	04 (G1ET)	2006	Particulates
BH13	10 (DTOW1) Baghouse	2006	Particulates
MEAC ¹	02 (EGR1, ICR1, EGR2, ICR2, RGDT) After Condenser	1996	VOC
BH14	Baghouse	2008	Particulates
BH15	Baghouse	2008	Particulates

¹ This unit was voluntarily installed. This unit is not required by any regulation or standard. Therefore, no operational limits will be placed on this unit.

C. EQUIPMENT DESCRIPTION

A description of the equipment located at this facility is provided in the following tables:

3M Company (Greenville Film Plant)

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(Updated 8/27/09)

REDO TABLE 5.3 TO MATCH CHANGES IDENTIFIED IN FORM C (APPENDIX A).

TABLE 5.3 UNIT ID 01 - Raw Materials Preparation Section

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
PP1	Esterification System #1	1972 (1994)	N/A	001E112, 001E103
PP2	Esterification System #2	1972 (1994)	N/A	001E112, 001E097
RB	Blending/Mixing	1972	N/A	001E092
EGT	Ethylene Glycol Day Tank	1972 (1982)	N/A	001E096

N/A = Not Applicable

(page updated 6/26/06)

REDO TABLE 5.4 TO MATCH CHANGES IDENTIFIED IN FORM C (APPENDIX A).

TABLE 5.4 UNIT ID 02 - Polymerization Reaction/Material Recovery Section

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
PC1	Polycon #1	1972 (1994)	N/A	001E112, 001E102
PC2	Polycon #2	1972 (1994)	N/A	001E112, 001E101
PC3	Polycon #3	1972 (1994)	N/A	001E112, 001E099
PC4	Polycon #4	1972 (1994)	N/A	001E112, 001E098
EGR1	Train 1 REG Receiver	1983	MEAC ¹	001E112
MER1	Train 1 MeOH Receiver	1983	N/A	N/A
ICR1	Train 1 Intermediate Cut Receiver	1990	MEAC ¹	001E112
EGR2	Train 2 REG Receiver	1983	MEAC ¹	001E112
MER2	Train 2 MeOH Receiver	1983	N/A	N/A
ICR2	Train 2 Intermediate Cut Receiver	1990	MEAC ¹	001E112
RGDT	Recovered EG Day Tank	1994	MEAC ¹	001E112
REGT	Recovered EG Tank	1972	N/A	888E007
MEOH	Methanol Tank	1972	N/A	888E005
VSILO	Virgin Silo Airveying including Master Batch and Virgin Silos	1972 (1982)	BH2	888E001

¹This unit was voluntarily installed. This unit is not required by any regulation or standard. Therefore, no operational limits will be placed on this unit.

N/A = Not Applicable

REDO TABLE 5.5 TO MATCH CHANGES IDENTIFIED IN FORM C (APPENDIX A).

TABLE 5.5 UNIT ID 03 - Resin Train 1/2

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
EJT1	Vertical Ejector Tower	1972 (1982)	N/A	888E003
EJT2	Vertical Ejector Tower	1995	N/A	888E004

N/A = Not Applicable

REDO TABLE 5.6 TO MATCH CHANGES IDENTIFIED IN FORM C (APPENDIX A).

TABLE 5.6 UNIT ID 04 - G1 Film Line

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
G1DT	G1 Dryer Tower	1972	N/A	N/A
G1XT	G1 Extruder	1972	N/A	001E057
G1TN	G1 Tenter	1972	N/A	001E002
G1GR	G1 Grinder Airveying	1972	BH7	005E005
G1ET	G1 Edge Trimmer including Airveying	1972	BH12	888E038

3M Company (Greenville Film Plant)

TV-1200-0073

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(Updated 8/27/09)

REDO TABLE 5.6 TO MATCH CHANGES IDENTIFIED IN FORM C (APPENDIX A).

TABLE 5.6 UNIT ID 04 - G1 Film Line

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
OLS	OLS	1972	N/A	001E043

N/A = Not Applicable

REDO TABLE 5.7 TO MATCH CHANGES IDENTIFIED IN FORM C (APPENDIX A).

TABLE 5.7 UNIT ID 05 - G2 Film Line

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
G2DT	G2 Dryer Tower	1982	N/A	N/A
G2XT	G2 Extruder	1982	N/A	007E073
G2GR	G2 Grinder including Airveying	1982 (2002)	BH6	007E007
G2ET	G2 Edge Trim including Airveying	1982 (2002)	BH11	007E005
G2PC	P Coater	1982	N/A	007E003, 007E004
G2GC	G Coater	1982	N/A	007E001, 007E002
G2C	C Oven	1982	N/A	008E001

N/A = Not Applicable

REDO TABLE 5.8 TO MATCH CHANGES IDENTIFIED IN FORM C (APPENDIX A).

TABLE 5.8 UNIT ID 06 - Tank Farm

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
DMTT	DMT Tank	1994	N/A	N/A
VEGT	Virgin EG Tank	1972	N/A	888E006
FOT1	Residual Fuel Oil Tank	1980	N/A	888E008
FOT2	Distillate Fuel Oil Tank	1972	N/A	888E009

N/A = Not Applicable

REDO TABLE 5.9 TO MATCH CHANGES IDENTIFIED IN FORM C (APPENDIX A).

TABLE 5.9 UNIT ID 07 - Visual Converting Process

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
CT01	Cut-to-Size 1 with Collection Cyclone Separator 1	1994	BH9	888E035
CT02	Cut-to-Size 2 with Collection Cyclone Separator 2	1994	BH9	888E035
VSET	VSET Edge	1996	BH9	888E035

REDO TABLE 5.10 TO MATCH CHANGES IDENTIFIED IN FORM C (APPENDIX A).

TABLE 5.10 UNIT ID 08 - PET Reclaim Process

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
FSILO	Flake Silo including Airveying	1972 (1982)	BH4	009E014
RBLD	PET Reclaim Building	1998	BH10	888E037
RVAC	PET Reclaim Vacuum	1998	BH10	888E037
PTZR	Reclaim Pellitizers	1972	N/A	N/A
RSILO	Reclaim Silo Airveying including Reclaim and other Virgin Silos	1972 (1982)	BH3	888E002

N/A = Not Applicable

REDO TABLE 5.11 TO MATCH CHANGES IDENTIFIED IN FORM C (APPENDIX A).

TABLE 5.11 UNIT ID 09 - Box/Tote Material Handling

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
BTLU	Box/Tote Airveying	1972 (1982)	BH1	009E015

3M Company (Greenville Film Plant)

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(Updated 8/27/09)

REDO TABLE 5.12 TO MATCH CHANGES IDENTIFIED IN FORM C (APPENDIX A).

TABLE 5.12 UNIT ID 10 - G1/G2 Dryer Material Handling				
Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
DTOW1	G1Dryer Airveying	2006	BH13	888E039
DTOW2	G2Dryer Airveying	1972 (1982)	BH5	007E008

TABLE 5.13 UNIT ID 11 - Steam Boiler #1				
Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
SB1	57.9 million BTU/hr Steam Boiler #1	1972 (2003)	N/A	003E001

N/A = Not Applicable

TABLE 5.14 UNIT ID 12 - Steam Boiler #2				
Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
SB2	41.4 million BTU/hr Steam Boiler #2	1980 (2003)	N/A	003E002

N/A = Not Applicable

TABLE 5.15 UNIT ID 13 - Born Oil Heater				
Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
BORN	18 million BTU/hr Born T-66 Oil Heater	1972 (2001)	N/A	003E003

N/A = Not Applicable

(page updated 10/17/07)

TABLE 5.16 UNIT ID 14 - Carotek Oil Heater				
Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
CARO	28 million BTU/hr Carotek Oil Heater	1982 (2001)	N/A	003E004

N/A = Not Applicable

REDO TABLE 5.17 TO MATCH CHANGES IDENTIFIED IN FORM C (APPENDIX A).

TABLE 5.17 UNIT ID 15 - G3 Film Line				
Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
G3GC1	G3 Coater 1	2008	N/A	026E005
G3GC2	G3 Coater 2	2008	N/A	026E019
G3C	G3 Oven	2008	N/A	026E010-016 Or 026E010-012 & 027, 028 & 016
G3ASP1	G3 Aspirator 1	2008	BH15	026E007
G3ASP2	G3 Aspirator 2	2008	BH15	026E007
G3XT1	G3 Extruder 1	2008	N/A	026E007
G3XT2	G3 Extruder 2	2008	N/A	026E007
G3XT3	G3 Extruder 3	2008	N/A	026E007
G3XT4	G3 Extruder 4	2008	N/A	026E007
G3D	G3 Pellet Dryer	2008	BH15	026E007
G3H1	G3 Resin Charging Hopper 1	2008	BH15	026E007

PLEASE ADD A
REFERENCE NUMBER TO
EACH ITEM IN THIS TABLE.

3M Company (Greenville Film Plant)

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(Updated 8/27/09)

REDO TABLE 5.17 TO MATCH CHANGES IDENTIFIED IN FORM C (APPENDIX A).

TABLE 5.17 UNIT ID 15 – G3 Film Line

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
G3H2	G3 Resin Charging Hopper 2	2008	BH15	026E007
G3H3	G3 Resin Charging Hopper 3	2008	BH15	026E007
G3CW	G3 Die Casting Wheel	2008	N/A	026E021, 026E023
G3FSGR1	G3 Floor Scrap Grinder 1	2008	BH14	026E006
G3FSGR2	G3 Floor Scrap Grinder 2	2008	BH14	026E006
G3FSGR3	G3 Floor Scrap Grinder 3	2008	BH14	026E006
G3FSGR4	G3 Floor Scrap Grinder 4	2008	BH14	026E006
G3ETGR1	G3 Edge Trim Grinder 1	2008	BH14	026E006
G3ETGR2	G3 Edge Trim Grinder 2	2008	BH14	026E006
G3ET	G3 Edge Trim Airveying	2008	BH14	026E006
G3FS	G3 Floor Scrap Airveying	2008	BH14	026E006
G3TL	G3 Flake Truck Load	2008	BH14	026E006
G3BL	G3 Flake Box Load	2008	BH14	026E006
G3FSILO1	Clear Flake Silo	2008	N/A	N/A
G3FSILO2	Color Flake Silo	2008	N/A	N/A
G3VSILO1	G3 Pellet Silo 1	2008	BH15	026H007
G3VSILO2	G3 Pellet Silo 2	2008	BH15	026H007
G3VSILO3	G3 Pellet Silo 3	2008	BH15	026H007
G3VSILO4	G3 Pellet Silo 4	2008	BH15	026H007
G3VSILO5	G3 Pellet Silo 5	2008	BH15	026H007
G3MRTK1	G3 Mix Room Tank 1	2008	N/A	026E0030
G3MRTK2	G3 Mix Room Tank 2	2008	N/A	026E0030
G3MRTK3	G3 Mix Room Tank 3	2008	N/A	026E0030
G3MRTK4	G3 Mix Room Tank 4	2008	N/A	026E0030
G3MRSC1	G2 Mix Room Storage 1	2008	N/A	026E0030
G3MRSC2	G2 Mix Room Storage 2	2008	N/A	026E0030
G3MRSC3	G2 Mix Room Storage 3	2008	N/A	026E0030
G3MRH1	G3 Mix Room Hood 1	2008	N/A	026E0030
G3MRH2	G3 Mix Room Hood 2	2008	N/A	026E0030
G3MRH3	G3 Mix Room Hood 3	2008	N/A	026E0030

N/A = Not Applicable

*These are approximate installation dates. Before construction, the referenced equipment shall first obtain a construction permit from the Department. The Department may grant permission to proceed with minor alterations or additions without issuance of a permit when the Department determines that the alteration or addition will not increase the quantity and will not alter the character of the sources emissions (SC Regulation 61-62.1, Section II (A)(1)(a)).

D. EMISSION LIMITS AND STANDARDS

PLEASE MATCH UNIT ID
TO CHANGES IDENTIFIED
IN FORM C (APPENDIX A).

Table 5.18 contains summaries of emission unit emission limits and standards.

TABLE 5.18 EMISSION LIMITS AND STANDARDS							
Ref. #	Unit ID	Pollutant/ Standard	Limit	Reference Method	Regulation	State Only	Condition Number
1	01: PP1, PP2	Opacity	20%	9	SC Reg 61-62.5, Std 4	No	5.E.1

PLEASE ADD A
REFERENCE NUMBER TO
EACH ITEM IN THIS TABLE.

3M Company (Greenville Film Plant)

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(Updated 8/27/09)

PLEASE MATCH UNIT ID
TO CHANGES IDENTIFIED
IN FORM C (APPENDIX A).

TABLE 5.18 EMISSION LIMITS AND STANDARDS

Ref. #	Unit ID	Pollutant/ Standard	Limit	Reference Method	Regulation	State Only	Condition Number
2	01: RB, EGT	Opacity	40%	9	SC Reg 61-62.5, Std 4	No	5.E.2
3	01, 02	Group 2 Process Vent Batch Mass Input, Group 2 Wastewater	3,504 batches/yr	25/25A, 18	40 CFR 63, Subparts A and JJJ	No	5.E.3
4	02: MEOH	Group 1 Storage Tank	Emissions Averaging, SSM	N/A	40 CFR 63, Subparts A and JJJ	No	5.E.3
5	02: REGT, MEOH, EGR1, MER1, EGR2, MER2, VSILO	Opacity	40%	9	SC Reg 61-62.5, Std 4	No	5.E.2
6	02: PC1, PC2, PC3, PC4, ICR1, ICR2, RGDT	Opacity	20%	9	SC Reg 61-62.5, Std 4	No	5.E.1
7	02: MEAC	As Specified in Condition	As Specified in Condition	N/A	N/A	N/A	5.E.4
8	02: VSILO	PM	53.12 lb/hr	5	SC Reg 61-62.5, Std 4	No	5.E.5
9	03: EJT1	Opacity	40%	9	SC Reg 61-62.5, Std 4	No	5.E.2
10	03: EJT2	Opacity	20%	9	SC Reg 61-62.5, Std 4	No	5.E.1
11	01, 02, 03, 06	Organic HAPs	LDAR	Method 21, Sensory	40 CFR 63, Subparts A, H, and JJJ	No	5.E.16
12	04, 05 (Except G2GR, G2ET)	Opacity	40%	9	SC Reg 61-62.5, Std 4	No	5.E.2
13	04	PM	6.30 lb/hr	5	SC Reg 61-62.5, Std 4	No	5.E.5
14	04: G1TN	VOC	2.9 lb VOC/ gallon of coating	25	SC Reg 61-62.5, Std 5	No	5.E.6
15	05: G2GR, G2ET	Opacity	20%	9	SC Reg 61-62.5, Std 4	No	5.E.1
16	05	PM	12.0 lb/hr	5	SC Reg 61-62.5, Std 4	No	5.E.5
17	05: G2PC, G2GC, G2C	VOC	2.9 lb VOC/ gallon of coating	25	SC Reg 61-62.5, Std 5	No	5.E.6
18	06: VEGT, FOT1, FOT2	Opacity	40%	9	SC Reg 61-62.5, Std 4	No	5.E.2
19	06: DMTT	Opacity	20%	9	SC Reg 61-62.5, Std 4	No	5.E.1
20	07	Opacity	20%	9	SC Reg 61-62.5, Std 4	No	5.E.1

PLEASE ADD A
REFERENCE NUMBER TO
EACH ITEM IN THIS TABLE.

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PLEASE MATCH UNIT ID
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TABLE 5.18 EMISSION LIMITS AND STANDARDS

Ref. #	Unit ID	Pollutant/ Standard	Limit	Reference Method	Regulation	State Only	Condition Number
21	07	PM	0.04 lb/hr	5	SC Reg 61-62.5, Std 4	No	5.E.5
22	08: FSILO, PTZR, RSILO	Opacity	40%	9	SC Reg 61-62.5, Std 4	No	5.E.2
23	08: RBLD, RVAC	Opacity	20%	9	SC Reg 61-62.5, Std 4	No	5.E.1
24	08	PM	11.89 lb/hr	5	SC Reg 61-62.5, Std 4	No	5.E.5
25	09, 10	Opacity	40%	9	SC Reg 61-62.5, Std 4	No	5.E.2
26	09	PM	27.63 lb/hr	5	SC Reg 61-62.5, Std 4	No	5.E.5
27	10	PM	34.24 lb/hr	5	SC Reg 61-62.5, Std 4	No	5.E.5
28	11-12	Opacity	20%	9	SC Reg 61-62.5, Std 1	No	5.E.7
29	11-12 (Each)	PM	0.6 lb/10 ⁶ BTU	5	SC Reg 61-62.5, Std 1	No	5.E.8
30	11-12 (Each)	SO ₂	3.5 lb/10 ⁶ BTU	6-6C	SC Reg 61-62.5, Std 1	No	5.E.10
31	11, 12	SO ₂	≤ 0.05% Sulfur Content	6-6C, 19/6B	SC Reg. 61-62.1, Section II, Part H	No	5.E.11
32	11-12 (Each)	SO ₂	< 40 TPY	6-6C	SC Reg. 61-62.1, Section II, Part H	No	5.E.12
33	13-14	Opacity	20%	9	SC Reg 61-62.5, Std 1	No	5.E.7
34	13-14	PM	0.6 lb/10 ⁶ BTU	5	SC Reg 61-62.5, Std 1	No	5.E.8
35	13-14	SO ₂	≤ 0.5% Sulfur Content	6-6C, 19/6B	SC Reg. 61-62.1, Section II, Part H	No	5.E.13
36	13-14	SO ₂	< 40 TPY	6-6C	SC Reg. 61-62.1, Section II, Part H	No	5.E.14
37	14	Fuel Oil Consumption	1,098,950 Gallons/Yr No. 2 Fuel Oil	6-6C	SC Reg. 61-62.1, Section II, Part H	No	5.E.15
38	15	Opacity	20%	9	SC Reg 61-62.5, Std 4	No	5.E.1
39	15	PM	10.37 Lb/hr	*	SC Reg 61-62.5, Std 4	No	5.E.5
40	15	Organic HAP/Mass of coating/Mass of coating solids each month	No more than 5 percent of the organic HAP applied for each month OR No more than 4 percent of the mass of coating materials applied for each month OR No more than 20 percent of the mass of coating solids applied for each month	*	40 CFR 63, Subpart JJJJ, Sec 63.3320(b)(1)-(3)	No	5.E.17

*As Approved by BAQ

PLEASE ENSURE THAT ALL UNITS REFERENCED IN 5.E CONDITIONS ARE UPDATED TO MATCH CHANGES PROPOSED IN FORM C (APPENDIX A).

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The maximum allowable emission limits above are derived from the various Federal and State regulations that govern the operation of this type of source. All applicable facility wide emission limits and corresponding regulations are listed above. Additional operating requirements which may be more stringent than those above are contained in Part 4.0, Part 6.0, and Part 7.0 of this permit.

E. EMISSION UNIT CONDITIONS

Condition Number	Conditions
5.E.1	(Units 01:PP1, PP2; 02: PC1, PC2, PC3, PC4, ICR1, ICR2, RGDT; 03:EJT2; 05:G2GR, G2ET; 06:DMTT; 07; 08:RBLD, RVAC; 15) In accordance with SC Regulation 61-62.5, Standard No. 4 - Emissions from Process Industries, Section IX - Visible Emissions (Where Not Specified Elsewhere), where construction or modification began after December 31, 1985, emissions (including fugitive emissions) shall not exhibit an opacity greater than 20%.
5.E.2	(Units 01:RB, EGT; 02: REGT, MEOH, EGR1, MER1, EGR2, MER2, VSILO; 03:EJT1; 04; 05 except G2GR & G2ET; 06:VEGT, FOT1, FOT2; 08:FSILO, PTZR, RSILO; 09; 10) In accordance with SC Regulation 61-62.5, Standard No. 4 - Emissions from Process Industries, Section IX - Visible Emissions (Where Not Specified Elsewhere), where construction or modification began on or before December 31, 1985, emissions (including fugitive emissions) shall not exhibit an opacity greater than 40%.
5.E.3	(Units 01, 02) These units are subject to 40 CFR 63, Subparts A and JJJ. In accordance with §63.1323(d) of Subpart JJJ, a batch process vent with annual emissions of TOC or organic HAP less than 11,800 kg/yr is considered a Group 2 batch process vent, and wastewater. The owner or operator of said batch process vent shall comply with the requirements in §63.1322(f) or (g). This facility is complying with requirements of §63.1322(g). In accordance with §63.1322(g), the owner or operator shall: <ul style="list-style-type: none"> Establish a batch mass input limitation that ensures emissions do not exceed 11,800 kg/yr of TOC or organic HAP. This facility has established the batch mass input limit of 3504 batch/yr. Over the course of the affected source's "year" (as specified in NOC), the owner or operator shall not charge a mass of HAP or material to the batch unit operation that is greater than 3504 batch/yr limit. The owner or operator shall comply with recordkeeping requirements specified in §63.1326(d)(1), and reporting requirements in §63.1327(a)(2), (b), and (c). These requirements are found in Section 6 of this permit. The owner/operator shall comply with §63.1323(i) when process changes are made. Storage tank MEOH is a Group 1 wastewater storage tank and is using emissions averaging provisions as control technology.
5.E.4	(Unit 02) The Methanol After-Condenser (MEAC) is a voluntarily installed control device. Therefore, no limits on operation will be placed on the MEAC provided that 3M remains in compliance with all applicable Federal and State Regulations.
5.E.5	(Units 02:VSILO; 04; 05; 07; 08; 09; 10; 15) In accordance with SC Regulation 61-62.5, Standard No. 4 - Emissions from Process Industries, Section VIII - Other Manufacturing, particulate matter emissions shall be limited to the rate specified by use of the following equations: for process weight rates less than or equal to 30 tons per hour ($E = 4.10P^{0.67}$) and for process weight rates greater than 30 tons per hour ($E = 55.0P^{0.11} - 40$) where E = the allowable emission rate in pounds per hour and P = process weight rate in tons per hour.

H

PLEASE MERGE CONDITION 5.E.16 WITH CONDITION 5.E.3.

PLEASE ENSURE THAT ALL UNITS REFERENCED IN 5.E CONDITIONS ARE UPDATED TO MATCH CHANGES PROPOSED IN FORM C (APPENDIX A).

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PLEASE MERGE CONDITION
5.E.16 WITH CONDITION 5.E.3.

Condition Number	Conditions
5.E.16	(Units 01; 02; 03; 06) Except as provided for in paragraphs §63.1331(b) and (c), the owner/operator shall comply with the requirements of 40CFR63 Subpart H <i>National Emission Standards For Organic Hazardous Air Pollutants From The Synthetic Organic Chemical Manufacturing Industry For Equipment Leaks</i> . Equipment leaks subject to Subpart H shall follow the provisions for periods of start-up, malfunction and process unit shutdown as defined in §63.161 of Subpart H. [§63.1310(j)]. Since these requirements are primarily monitoring, repair, record keeping, and reporting, requirements, they are given in Section 6.B of this permit.
5.E.17	(Unit 15) In accordance with §63.3320(b)(1)-(3) The facility must limit organic HAP emissions to the level specified in paragraph (b)(1), (2) or (3) of §63.3320. (b)(1) No more than 5 percent of the organic HAP applied for each month (95 percent reduction) at existing affected sources; or (b)(2) No more than 4 percent of the mass of coating materials applied for each month at existing affected sources; or (b)(3) No more than 20 percent of the mass of coating solids applied for each month at existing affected sources.

PLEASE ADD A REFERENCE NUMBER TO EACH ITEM IN THIS TABLE.

PART 6.0 MONITORING AND REPORTING REQUIREMENTS

[SC Regulation 61-62.1, Section II]; [SC Regulation 61-62.70.6(a)(3)(i)(B)]

A. MONITORING AND REPORTING

PLEASE MATCH UNIT ID TO CHANGES
IDENTIFIED IN FORM C (APPENDIX A).

Table 6.1 contains summaries of the monitoring and reporting required of this facility.

TABLE 6.1 MONITORING AND REPORTING

Ref. #	Unit ID	Pollutant/ Parameter	Limit	Required Monitoring	Monitoring Frequency	Reporting Frequency	Condition Number
1	Facility Wide	Production VOC	1098.2 TPY	Production Records	Monthly	Semi- Annual	6.B.1
2	02: VSILO	PM	53.12 lb/hr	Pressure Drop	Weekly	Semi- Annual	6.B.2, 6.B.3
3	02: VSILO	Opacity	40%	Visual Inspection	Daily	Semi- Annual	6.B.4
4	04: G1GR, G1ET	PM	6.30 lb/hr	Pressure Drop	Weekly	Semi- Annual	6.B.2, 6.B.3
5	04: G1GR, G1ET	Opacity	40%	Visual Inspection	Daily	Semi- Annual	6.B.4
6	04, 05	VOC	2.9 lb VOC/gallon of coating	Gallons of Coating Applied	Daily	Semi- Annual	6.B.6
7	05: G2GR, G2ET	PM	12.0 lb/hr	Pressure Drop	Weekly	Semi- Annual	6.B.2, 6.B.3
8	05: G2GR, G2ET	Opacity	20%	Visual Inspection	Daily	Semi- Annual	6.B.4

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PLEASE MATCH UNIT ID TO
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TABLE 6.1 MONITORING AND REPORTING

Ref. #	Unit ID	Pollutant/ Parameter	Limit	Required Monitoring	Monitoring Frequency	Reporting Frequency	Condition Number
9	07	PM	0.04 lb/hr	Pressure Drop	Weekly	Semi- Annual	6.B.2, 6.B.3
10	07, 08:RBLD, RVAC	Opacity	20%	Visual Inspection	Weekly	Semi- Annual	6.B.5
11	08:RBLD, RVAC, FSILO, RSILO	PM	11.89 lb/hr	Pressure Drop	Weekly	Semi- Annual	6.B.2, 6.B.3
12	08: FSILO, RSILO	Opacity	40%	Visual Inspection	Daily	Semi- Annual	6.B.4
13	9	PM	27.63 lb/hr	Pressure Drop	Weekly	Semi- Annual	6.B.2, 6.B.3
14	10	PM	34.24 lb/hr	Pressure Drop	Weekly	Semi- Annual	6.B.2, 6.B.3
15	9, 10	Opacity	40%	Visual Inspection	Daily	Semi- Annual	6.B.4
16	11-12	Opacity	20%	Visual Inspection	Daily (when burning No. 2 Fuel Oil)	Semi- Annual	6.B.7
17	11-12	SO ₂	< 40 TPY	Fuel Consumption	Daily	Semi- Annual	6.B.8
18	11-12	Sulfur Content	< 0.05%	Supplier Certification	Each Shipment	Semi- Annual	6.B.8
19	13-14	Opacity	20%	Visual Inspection	Daily (when burning No. 2 Fuel Oil)	Semi- Annual	6.B.7
20	13-14	Sulfur Content	< 0.5%	Supplier Certification	Each Shipment	Semi- Annual	6.B.9
21	14	Fuel Oil Consumption	1,098,950 gal/yr	As Specified	As Specified	Semi- Annual	6.B.10
22	01, 02	Group 2 Process Vent Batch Mass Input	3,504 batches/yr	As Specified	As Specified	As Specified	6.B.11
23	02: MEOH	Group 1 Wastewater Tank	As Specified in Condition	Emissions Averaging Plan, SSM Plan	As Specified	As Specified	6.B.11
24	01-03, 06	Organic HAP	As Specified in Conditions	As Specified in Conditions	As Specified in Conditions	Semi- Annual	6.B.12, 6.B.13, 6.B.14, 6.B.15, 6.B.16
25	15	Opacity	20%	Visual Inspection	Daily	Semi- Annual	6.B.4
26	15	PM	10.37 Lb/hr	Pressure Drop	Weekly	Semi- Annual	6.B.2, 6.B.3

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TABLE 6.1 MONITORING AND REPORTING

Ref. #	Unit ID	Pollutant/ Parameter	Limit	Required Monitoring	Monitoring Frequency	Reporting Frequency	Condition Number
27	15	Organic HAP/Mass of coating/Mass of coating solids each month	No more than 5 percent of the organic HAP applied for each month OR No more than 4 percent of the mass of coating materials applied for each month OR No more than 20 percent of the mass of coating solids applied for each month	Gallons of Coating Applied	Daily	Semi- Annual	6.B17- 6.B.25

B. MONITORING AND REPORTING CONDITIONS

Condition Number	Conditions
6.B.1	(Facility Wide) The owner/operator must record the actual monthly production rates and maintain these records on-site for a period of at least five (5) years. These records shall include the total amount of each material used, the VOC content in percent by weight of each material. VOC emission shall be calculated on a MONTHLY basis, and a twelve month rolling sum shall be calculated for total VOC emissions. The twelve month rolling sum for VOC from both Tape and Film Plant combined shall be less than 1098.2 tons/yr. The owner/operator shall maintain all records, including material purchase orders, invoices, and material data sheets, etc. for a period of at least five (5) years from the date generated, and shall make these records available to Department personnel upon request. Semi-Annual reports including all recorded parameters and calculated values shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality postmarked no later than 30 calendar days after the end of the reporting period. An algorithm, including example calculations and emission factors, explaining the method used to determine VOC rate shall be included in the initial report. Subsequent submittals of the algorithm and example calculations are unnecessary, unless the method of calculation is found to be unacceptable by the Bureau or if the facility changes the method of calculating emissions and/or changes emission factors.

PLEASE ENSURE THAT ALL UNITS REFERENCED IN 6.B CONDITIONS ARE UPDATED TO MATCH CHANGES PROPOSED IN FORM C (APPENDIX A).

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Condition Number	Conditions
6.B.2	<p>(Units 02, 04, 05, 07, 08, 09, 10, 15) The owner/operator shall install, operate and maintain pressure drop gauge(s) on each module of the baghouse(s). All pressure drop gauges shall be readily accessible for verification by operating personnel and Department personnel (i.e. on ground level or easily accessible roof level). Pressure drop readings shall be recorded weekly during source operation and shall be made available to Department personnel upon request. In addition, the baghouse cleaning systems, dust collector hoppers, and conveying systems should be checked on a weekly basis for proper operation. The pressure drop readings shall be maintained in logs (written or electronic (i.e., computerized data system)), along with any corrective action taken when deviations occur. Operational ranges for the monitored parameters shall have been established to provide a reasonable assurance of compliance from stack test data, vendor certification, and/or operational history and visual inspections, which demonstrate the proper operation of the equipment in compliance. These ranges, with supporting documentation and quality assurance procedures, must have been submitted to the Bureau for approval as specified in previous Part 70 Operating Permit. The owner/operator shall operate these units within the approved ranges. The operating ranges may be updated using this procedure, following Bureau approval. Baghouse monitoring data shall be maintained on site for a period of at least five (5) years from the date generated and shall be made available to Department personnel upon request. Each incidence of operation outside these operational ranges, including date and time, cause, and corrective action taken, shall be recorded and kept on site for five (5) years. Exceedance of operational range shall not be considered a violation of an emission limit of this permit, unless the exceedance is also accompanied by other information demonstrating that a violation of an emission limit has taken place. Semi-Annual reports of these incidences shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality postmarked no later than 30 days after the end of the reporting period. If no incidences occurred during the reporting period then a letter shall indicate such.</p> <p>Any alternative method for monitoring baghouse performance must be preapproved by the Bureau and shall be incorporated into the permit as set forth in SC Regulation 61-62.70.7.</p>
6.B.3	<p>(Units 02, 04, 05, 07, 08, 09, 10, 15) The owner/operator shall maintain on file all measurements including continuous monitoring system or monitoring device performance measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required in a permanent form suitable for inspection by Department personnel for at least five (5) years following the date of such measurement, maintenance, report and record.</p>
6.B.4	<p>(Units 02, 04, 05, 08, 09, 10, 15) The permittee shall perform a visual inspection on a daily basis. Visual Inspection means a qualitative observation of opacity during daylight hours where the inspector records results in a log, noting color, duration, density (heavy or light), cause and corrective action taken for any abnormal emissions. The observer does not need to be certified to conduct valid visual inspections. However, at a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, and observer position relative to lighting, wind, and the presence of uncombined water. No periodic monitoring for opacity will be required during periods of burning natural gas or propane only. Logs shall be kept to record all visual inspections, including cause and corrective action taken for any abnormal emissions and visual inspections from date of recording. The logs shall be maintained for a period of five (5) years and be made available to the Department upon request. The owner/operator shall submit Semi-Annual reports to the Manager of the Technical Management Section, Bureau of Air Quality postmarked no later than 30 calendar days after the end of the reporting period.</p>

PLEASE ENSURE THAT ALL UNITS REFERENCED IN 6.B CONDITIONS ARE
UPDATED TO MATCH CHANGES PROPOSED IN FORM C (APPENDIX A).

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Condition Number	Conditions
6.B.5	<p>(page updated 11/16/06)</p> <p>(Units 07, 08:RBLD & RVAC) The permittee shall perform a visual inspection on a weekly basis. Visual Inspection means a qualitative observation of opacity during daylight hours where the inspector records results in a log, noting color, duration, density (heavy or light), cause and corrective action taken for any abnormal emissions. The observer does not need to be certified to conduct valid visual inspections. However, at a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, and observer position relative to lighting, wind, and the presence of uncombined water. No periodic monitoring for opacity will be required during periods of burning natural gas or propane only. Logs shall be kept to record all visual inspections, including cause and corrective action taken for any abnormal emissions and visual inspections from date of recording. The logs shall be maintained for a period of five (5) years and be made available to the Department upon request. The owner/operator shall submit Semi-Annual reports to the Manager of the Technical Management Section, Bureau of Air Quality postmarked no later than 30 calendar days after the end of the reporting period.</p>
6.B.6	<p>(Units 04, 05) VOC emissions shall not exceed 2.9 pounds per gallon (0.35 kilograms per liter) of coating, excluding water and exempt solvents, delivered to the web coating applicator system. To comply with this regulation, coating usage shall be tracked through production recordkeeping system. A 24-hour weighted average can be used for compliance with this limit. Readings shall be recorded daily during source operation and shall be made available to Department personnel upon request. The owner/operator shall also keep records detailing all activities relating to any compliance schedule under Part D of the regulation and records of all compliance testing under Part E. These records shall be maintained for a period of five (5) years and be made available to the Department and US Environmental Protection Agency upon request. The owner/operator shall submit Semi-Annual reports to the Manager of the Technical Management Section, Bureau of Air Quality postmarked no later than 30 calendar days after the end of the reporting period.</p>
6.B.7	<p>(Units 11-14) The permittee shall perform a visual inspection on a daily basis when burning fuel other than natural gas or propane. Visual Inspection means a qualitative observation of opacity during daylight hours where the inspector records results in a log, noting color, duration, density (heavy or light), cause and corrective action taken for any abnormal emissions. The observer does not need to be certified to conduct valid visual inspections. However, at a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, and observer position relative to lighting, wind, and the presence of uncombined water. No periodic monitoring for opacity will be required during periods of burning natural gas or propane only. Logs shall be kept to record all visual inspections, including cause and corrective action taken for any abnormal emissions and visual inspections from date of recording. The logs shall be maintained for a period of five (5) years and be made available to the Department upon request. The owner/operator shall submit Semi-Annual reports to the Manager of the Technical Management Section, Bureau of Air Quality postmarked no later than 30 calendar days after the end of the reporting period.</p>

PLEASE ENSURE THAT ALL UNITS REFERENCED IN 6.B CONDITIONS ARE UPDATED TO MATCH CHANGES PROPOSED IN FORM C (APPENDIX A).

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Condition Number	Conditions
6.B.8	(Units 11-12) These sources are permitted to burn only natural gas and No. 2 Fuel oil as fuel. The owner/operator shall record daily fuel oil, natural gas, etc. consumption, including fuel grade and supplier certification of sulfur content of the fuel. The owner/operator shall calculate SO ₂ emissions on a twelve month rolling sum. The calculations shall include sulfur content, fuel consumption and Bureau approved emission factors. SO ₂ emissions shall be less than 40 tons/year. Fuel oil sulfur content shall be less than or equal to 0.05% percent by weight. Acceptable fuel oil certification can be ensured by following Department guidance entitled "Guidance For Fuel Oil Certifications" issued on May 19, 2000 and any subsequent revisions. Fuel oil supplier certification shall be obtained for each batch of oil received and stored on site. Records of fuel consumption and fuel oil certification shall be maintained on site for a period of at least five (5) years from the date generated and shall be made available to a Department representative upon request. Semi-annual reports of fuel consumption and fuel oil certification shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality postmarked no later than 30 calendar days after the end of the reporting period.
6.B.9	(Units 13-14) These sources are permitted to burn only natural gas and No. 2 Fuel oil as fuel. The owner/operator shall record daily fuel oil, natural gas, etc. consumption, including fuel grade and supplier certification of sulfur content of the fuel. Fuel oil sulfur content shall be less than or equal to 0.5% percent by weight. Acceptable fuel oil certification can be ensured by following Department guidance entitled "Guidance For Fuel Oil Certifications" issued on May 19, 2000 and any subsequent revisions. Fuel oil supplier certification shall be obtained for each batch of oil received and stored on site. Records of fuel consumption and fuel oil certification shall be maintained on site for a period of at least five (5) years from the date generated and shall be made available to a Department representative upon request. Semi-annual reports of fuel oil certification shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality postmarked no later than 30 calendar days after the end of the reporting period.
6.B.10	(Unit 14) This source is permitted to burn 1,098,950 gallons/year of No. 2 Fuel oil. The owner/operator must record fuel oil consumption daily and calculate yearly fuel oil consumption on a twelve month rolling sum. Fuel oil sulfur content shall be less than or equal to 0.5% percent by weight. Acceptable fuel oil certification can be ensured by following Department guidance entitled "Guidance For Fuel Oil Certifications" issued on May 19, 2000 and any subsequent revisions. Fuel oil supplier certification shall be obtained for each batch of oil received and stored on site. Records of fuel oil consumption and fuel oil certification shall be maintained on site for a period of at least five (5) years from the date generated and shall be made available to a Department representative upon request. Semi-annual reports including fuel oil certification, fuel oil consumption, and all recorded parameters and calculated values shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality postmarked no later than 30 calendar days after the end of the reporting period.
6.B.11	(Units 01, 02) For group 2 batch process vent complying with §63.1322(g) should keep records designating the established batch mass input limitation (3,504 batches/yr) required by §62.1322(g)(1) and specified in §63.1325(g). Also keep records specifying the mass of HAP or material charged to the batch unit operation. Whenever a process change is made that causes a Group 2 batch process vent to become Group 1, notify the Administrator and submit a description of the process change within 180 days after the process change is made or with the Periodic Report (whichever is later) and comply with Group 1 provisions. If the process change is made to cause the annual emission less than the level specified in 5.E.3 for which the owner/operator has chosen to comply with or greater than or equal to the limit but remains Group 2 vent, submit a report within 180 days after the process change is made or with next Periodic Report (whichever is later) with description of the process change, and the batch mass input limitation determined in accordance with §63.1322(f)(1). The facility is using emissions averaging as control technology for the MEOH tank (Group 1 wastewater storage tank). In accordance with emissions averaging provisions, the facility shall comply with all applicable requirements of §63.1332. These notification requirements do not supersede construction permitting requirements where applicable.

maintained onsite, available for inspection when requested.

PLEASE ENSURE THAT ALL UNITS REFERENCED IN 6.B CONDITIONS ARE UPDATED TO MATCH CHANGES PROPOSED IN FORM C (APPENDIX A).

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Condition Number	Conditions
6.B.12	<p>(Units 01-03, 06) The owner/operator shall comply with the requirements of Subpart H of 40 CFR 63 with the differences noted in §63.1331, a(1) through a(13). The requirements of 40 CFR63 Subpart H are summarized below. These requirements are not all inclusive and the owner/operator shall operate this unit in compliance with Subpart JJJ. (Equipment and Equipment leak are defined in §63.1312)</p> <p>Pumps (§63.163) in Light Liquid Service: Each pump shall be monitored monthly to detect leaks as specified in b(1). Instrument readings should be 5000 ppm or greater. Indications of liquids dripping from packaging glands for pumps in ethylene glycol service where the pump seal is designed to weep fluid shall not be considered to be a leak. Ethylene glycol must be captured in a catchpan and returned to process. Leak shall be repaired as soon as practicable but no later than 15 calendar days. First attempt, made no later than 5 calendar days after leak is detected (tightening of packing gland nuts, ensuring that seal flush is operating at design pressure & temp. Exemption: Dual mechanical seal systems with barrier fluid system if the requirements in paragraphs (c)-(j).</p> <p>Compressors (§63.164): Equipped with seal system that includes barrier fluid system and that prevents leakage of process fluid except as provided in §63.162(b) and paragraphs (h) and (i) of §63.164. Each compressor seal system shall comply with paragraph (b) of §63.164. The barrier shall not be in light liquid service and shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both. Sensor shall be observed daily or shall be equipped with an alarm unless its located within boundary of an unmanned plant site. Owner/operator shall determine, based on design and operating experience, a criterion that indicates failure of system. Failure of system is considered to be a leak. It should be repaired as soon as practicable, but no later than 15 calendar days. First attempt, made no later than 5 calendar days after leak is detected. Exemption: If equipped with closed vent system to capture and transport leakage back to process, fuel gas system, or control device. Also if reading is less than 500 ppm above background (measured by §63.180c and tested for compliance initially upon designation, annually, and upon request.</p> <p>Pressure Relief Devices in Gas/Vapor Service (§63.165): Each pressure relief device shall be operated with an instrument reading of less than 500 ppm above background except during pressure releases (as specified in paragraph (b)). After pressure release, the device shall be returned to conditions indicating 500 ppm above background as soon as practicable, but no later than 5 calendar days after each release. No later than 5 calendar days after bringing the device back to the conditions stated above, the device shall be monitored to confirm the conditions indicated. Exemption: Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage from device to a control device is exempt. Any device that is equipped with a rupture disk upstream of the pressure relief device is exempt provided the owner/operator complies with the following: after each pressure release, a rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release except as provided in §63.171.</p> <p>Sampling Connection Systems (§63.166): Equipped with a closed-purge, closed-loop, or closed-vent system. Gases displaced during filling of sample container are not required to be collected. These systems shall return purged process fluid directly to process line, or collect and recycle the purged process fluid to a process, or be designed and operated to capture and transport the purged fluid to a control device that complies with §63.172, or collect, store, and transport fluid as specified in paragraph (b)(4). Exemption: In-situ sampling systems and sampling systems without purges.</p>
6.B.12 (cont'd)	<p>Open-Ended Valves or Lines (§63.167): Equipped with a cap, blind flange, plug, or second valve that seals the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance or repair. For those equipped with second valve, the process fluid end has to be closed before the second valve is closed. When double block and bleed system is used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with the first sentence under open-ended valve or lines. Exemption: Ones designed to open automatically in the event of process upset or an emergency shutdown. Ones containing materials which would automatically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system.</p> <p>Valves in Gas/Vapor Service and in Light Liquid Service (§63.168): Monitor all valves to detect leaks by method specified in §63.180(b) and instrument reading should be 500 ppm or greater. Ones with ≥ 2% leakage, monitor once/month or implement quality improvement</p>

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Condition Number	Conditions																														
	<p>program. Ones with >1% but < 2% leakage, monitor once/quarter. Ones with > 0.5% bur < 1%, monitor every 2 quarters. Ones with < 0.5% leakage, monitor each valve once every 4 quarters. Percent leakage shall be calculated using procedure in paragraph (e). When leak is detected, it should be repaired as soon as practicable, but no later than 15 calendar days. First attempt, made no later than 5 calendar days after leak is detected. When a leak has been repaired, the valve shall be monitored at least once within the first 3 months after its repair.</p> <p>Pumps, Valves, Connectors, and Agitators in Heavy Liquid Service; Instrumentation Systems & Pressure Relief Devices in Liquid Service (§63.169): Monitor by any method such as visual, audible, olfactory or any other method for detection of leak. If evidence of a potential leak, monitor within 5 calendar days by method specified in §63.180(b). If instrument reading of 10,000 ppm or greater for agitators, 5,000 ppm or greater for pumps handling polymerization monomers, 2,000 ppm or greater for all other pumps, or 500 ppm or greater for other systems is measured, a leak is detected. When leak is detected, it should be repaired as soon as practicable, but no later than 15 calendar days. First attempt, made no later than 5 calendar days after leak is detected.</p> <p>Surge Control Vessels and Bottoms Receivers (§63.170): If not routed back to the process and meets conditions specified in Table 2 or 3 of 40CFR63 Subpart H, it shall be equipped with a closed-vent system that routes the organic vapors from the surge control vessel or receiver back to process or to a control device that complies with 63.172 or comply with §63.119(b) or (c) of 40CFR63 Subpart G.</p>																														
6.B.13	<p>(Units 01-03, 06) Other requirements and standards are listed below for compliance with 40CFR63 Subpart H:</p> <table><tr><th>Section</th><th>Standard</th><th>Requirements</th></tr><tr><td>63.171</td><td>Delay of Repair</td><td>If infeasible without shutdown (see paragraphs (a)-(c))</td></tr><tr><td>63.172</td><td>Closed Vent System and Control Devices</td><td>Condenser 95% or greater efficiency or an exit concentration of 20 ppm. Initial inspection and annual inspection for leaks.</td></tr><tr><td>63.173</td><td>Agitators in Gas/Vapor Service and Light Liquid Service</td><td>Monitor monthly for leaks by method in §63.180(b). >10,000 ppm, leak is detected. Visual inspection weekly for liquids dripping (=leak). Repair requirements are same as in 6.B.13. Exemptions are in (d) – (j) of this section.</td></tr><tr><td>63.174</td><td>Connectors in Gas/Vapor Service and In Light Liquid Service</td><td>Monitor for leaks by method in §63.180(b). >500 ppm, leak is detected. Monitoring frequency is outlined in part (b) of this section. Repair requirements are same as in 6.B.13. Exemptions are in (f) – (h) of this section.</td></tr><tr><td>63.175</td><td>Quality Improvement Program for Valves</td><td>Refer to this section of the Subpart</td></tr><tr><td>63.176</td><td>Quality Improvement Program for Pumps</td><td>Refer to this section of the Subpart</td></tr><tr><td>63.177</td><td>Alternative Means of Emission Limitation: General</td><td>Refer to this section of the Subpart</td></tr><tr><td>63.178</td><td>Alternative Means of Emission Limitation: Batch Processes</td><td>Refer to this section of the Subpart</td></tr><tr><td>63.179</td><td>Alternative Means of Emission Limitation: Enclosed-Vented Process Units</td><td>Refer to this section of the Subpart</td></tr></table>	Section	Standard	Requirements	63.171	Delay of Repair	If infeasible without shutdown (see paragraphs (a)-(c))	63.172	Closed Vent System and Control Devices	Condenser 95% or greater efficiency or an exit concentration of 20 ppm. Initial inspection and annual inspection for leaks.	63.173	Agitators in Gas/Vapor Service and Light Liquid Service	Monitor monthly for leaks by method in §63.180(b). >10,000 ppm, leak is detected. Visual inspection weekly for liquids dripping (=leak). Repair requirements are same as in 6.B.13. Exemptions are in (d) – (j) of this section.	63.174	Connectors in Gas/Vapor Service and In Light Liquid Service	Monitor for leaks by method in §63.180(b). >500 ppm, leak is detected. Monitoring frequency is outlined in part (b) of this section. Repair requirements are same as in 6.B.13. Exemptions are in (f) – (h) of this section.	63.175	Quality Improvement Program for Valves	Refer to this section of the Subpart	63.176	Quality Improvement Program for Pumps	Refer to this section of the Subpart	63.177	Alternative Means of Emission Limitation: General	Refer to this section of the Subpart	63.178	Alternative Means of Emission Limitation: Batch Processes	Refer to this section of the Subpart	63.179	Alternative Means of Emission Limitation: Enclosed-Vented Process Units	Refer to this section of the Subpart
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63.179	Alternative Means of Emission Limitation: Enclosed-Vented Process Units	Refer to this section of the Subpart																													
6.B.14	<p>(Units 01-03, 06) Recordkeeping For 40CFR63 Subpart H: Owner/operator of more than one unit subject to Subpart H may keep one recordkeeping system but have to identify each record by process unit. All records shall be maintained on site and readily accessible. The owner/operator shall record the</p>																														

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Condition Number	Conditions
6.B.14 (Cont'd)	<p>following:</p> <ol style="list-style-type: none"> (1) A schedule by process unit for monitoring connectors (§73.174(a)), and valves (§63.168(d)); (2) Identify on a plant site plan, in log entries, or by other methods equip. in organic HAP service; (3) List of ID numbers for equipment with closed-vent system and control device; (4) List of ID numbers for compressors complying with reading of < 500 ppm above background; (5) Identify surge control vessels or bottoms receivers with closed-vent system & control device; (6) List of ID numbers for pressure relief device and those equipped with rupture disks; (7) Identify instrumentation system and screwed connectors; (8) For dual mechanical systems, design criteria and explanations of design criteria, changes to these design criteria and reasons for changes; (9) For pumps, valves, agitators, and connectors (as specified in §63.181(b)(7)), identify equipment designated as unsafe or difficult to monitor or inspect and plan for monitoring or inspecting this equipment, (10) List of valves and connectors removed from and added to the process unit if net credits for removed valves and connectors is to be used; for connectors, documentation of the integrity of the weld for any removed connectors; (11) For batch process units, list of equipment added to process since last monitoring period, records demonstrating the proportion of the time during the calendar year the equipment is in use in batch process; (12) For any leaks detected, a weatherproof and readily visible identification, marked with equipment ID number shall be attached to the leaking instrument; (13) For visual inspections conducted, record that visual inspection was conducted with the date; <p>For each leak detected, following information shall be recorded and kept for 2 years:</p> <ol style="list-style-type: none"> (1) Provide an identification number for the leaking equipment at the time of recordkeeping; (2) Date leak was detected, date of first attempt to repair leak; (3) Date of successful repair of leak; (4) Repair delayed and reason for the delay if a leak is not repaired within 15 calendar days; (5) Owner/operator may develop written procedure that identifies the conditions that justify a delay or repair (may be part of SSM plan or separate document maintained at plant site. If delay was caused by depletion of stocked parts, documentation showing the spare parts were sufficiently stocked on site before depletion and reason for depletion; (6) Dates process unit shutdowns that occur while equipment is unrepaired; (7) Identification of connectors that have been opened or had the seal broken since last monitoring; (8) Date and results of monitoring required in §63.174(c) and §63.178(c)(3)(i) for equipment added to batch process unit since last monitoring period. If no leaks, record that inspection was done; (9) Copies of periodic reports if records are not maintained on computerized database. <p>Owner/operator of batch product process who elects to pressure test the batch product process equipment train is exempt from all of the above requirements but shall maintain records required by (e)(1) through (e)(6) of §63.181. For compressors requiring a compliance test, the dates and results of the test shall be kept as well as the dates and results of the monitoring following a pressure release for each pressure relief device. Results shall include background level measured during each compliance test and the max instrument reading measured at each piece of equipment during each compliance test. For closed-vent systems and control devices, maintain records of information outlined in (g)(1)-(g)(3). Records of (g)(1) for lifetime of the equipment and (g)(2) and (g)(3) for 2 years. Quality improvement program requirements are specified in (h)(1) – (h)(9). For equipment in heavy liquid service, retain information, data, analyses used to demonstrate that its in heavy liquid service or demonstrate when required by Administrator that the equipment is in heavy liquid service. Identify equipment in organic HAP service < 300 hr/yr within a process unit. Those using alternative means of emissions (§63.179), shall comply with requirements of paragraph (k).</p>

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Condition Number	Conditions
6.B.15	<p>(Units 01-03, 06) Reporting for 40CFR63 Subpart H: Semiannual reports shall be submitted with the following information:</p> <ol style="list-style-type: none"> (1) Number of valves for which leaks were detected, percent leakers, and total number monitored; number of valves for which leaks were not repaired, identifying number of those that are determined to be nonrepairable; (2) Number of pumps for which leaks were detected, percent leakers, and total number monitored; number of pumps for which leaks were not repaired; (3) Number of compressors for which leaks were detected and number for which leaks were not repaired; (4) Number of agitators for which leaks were detected and number for which leaks were not repaired; (5) Number of connectors for which leaks were detected, percent leakers, and total number monitored; number of connectors for which leaks were not repaired, identifying number of those that are determined to be nonrepairable; (6) Explain any delay of repairs and where appropriate, why process unit shutdown was infeasible; (7) Results of all monitoring to show compliance with §63.164(i), §63.165(a), and §63.172(f) conducted within the semiannual reporting period; (8) If applicable, initiation of monthly monitoring program under §63.168(d)(1)(i) or quality improvement program; (9) If applicable, notification of change in connector monitoring alternatives; (10) If applicable, compliance option that has been selected under §63.172(n); (11) If electing to meet requirements of alternative means emission limitation for batch processes, report shall include batch product process equipment train ID, number of pressure tests conducted, number of tests where the equipment train failed pressure test, explain any delay of repair, and results of all monitoring to determine compliance with §63.172(f); (12) Any revisions to items reported in earlier NOC Status, if the method of compliance has changed since last report.
6.B.16	<p>(Units 01-03, 06) Recordkeeping and Reporting for 40CFR63 Subpart JJJ (§63.1335): Keep records and reports required by §63.1335 for at least 5 years unless copies were submitted to the appropriate EPA Regional Office. Develop and implement SSM plan as specified in §63.1335(b) unless the emission points pertain solely to Group 2. Semiannual SSM reports shall be submitted on the same schedule as periodic reports required by (e)(6) of §63.1335. Owners/operators required to keep continuous records shall keep records as specified in (d)(1)-(d)(7) unless an alternative system has been requested and approved. Reports and notifications required by Subpart A are listed in Table 1 of §63.1335. All reports required are listed in Table 9 of §63.1335.</p> <p>If the owner/operator has elected to monitor a different parameter than specified in §63.1321 for batch process vents shall submit information specified in (f)(1) through (f)(3) and retain these records for a period of 5 years. They may also request approval to use alternative continuous monitoring and recordkeeping provisions in accordance with (g)(1) through (g)(4).</p> <p>The owner/operator may implement the recordkeeping requirements specified in (h)(1) or (h)(2) as alternatives to the continuous operating parameter monitoring and recordkeeping provisions that would otherwise apply by §63.1335.</p>

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Condition Number	Conditions
6.B.17	(Unit ID 15) In accordance with §63.3360(c) <i>Organic HAP content</i> . If the owner/operator determines compliance with the emission standards in §63.3320 by means other than determining the overall organic HAP control efficiency of a control device, the owner/operator must determine the organic HAP mass fraction of each coating material "as-purchased" by following one of the procedures in paragraphs (c)(1) through (3) of §63.3360, and determine the organic HAP mass fraction of each coating material "as-applied" by following the procedures in paragraph (c)(4) of §63.3360. If the organic HAP content values are not determined using the procedures in paragraphs (c)(1) through (3) of §63.3360, the owner or operator must submit an alternative test method for determining their values for approval by the Administrator in accordance with §63.7(f). The recovery efficiency of the test method must be determined for all of the target organic HAP and a correction factor, if necessary, must be determined and applied.
6.B.18	(Unit ID 15) In accordance with §63.3360 (d) <i>Volatile organic and coating solids content</i> . If the owner/operator determines compliance with the emission standards in §63.3320 by means other than determining the overall organic HAP control efficiency of a control device and you choose to use the volatile organic content as a surrogate for the organic HAP content of coatings, the owner/operator must determine the as-purchased volatile organic content and coating solids content of each coating material applied by following the procedures in paragraph (d)(1) or (2) of §63.3360, and the as-applied volatile organic content and coating solids content of each coating material by following the procedures in paragraph (d)(3) of §63.3360.
6.B.19	(Unit ID 15) In accordance with §63.3360(g) <i>Volatile matter retained in the coated web or otherwise not emitted to the atmosphere</i> . The owner/operator may choose to take into account the mass of volatile matter retained in the coated web after curing or drying or otherwise not emitted to the atmosphere when determining compliance with the emission standards in §63.3320. If the owner/operator chooses this option, they must develop a testing protocol to determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere and submit this protocol to the Administrator for approval. The owner/operator must submit this protocol with the facility's site-specific test plan under §63.7(f). If the owner/operator intends to take into account the mass of volatile matter retained in the coated web after curing or drying or otherwise not emitted to the atmosphere and demonstrate compliance according to §63.3370(c)(3), (c)(4), (c)(5), or (d), then the test protocol submitted must determine the mass of organic HAP retained in the coated web or otherwise not emitted to the atmosphere. Otherwise, compliance must be shown using the volatile organic matter content as a surrogate for the HAP content of the coatings.
6.B.20	(Unit ID 15) In accordance with §63.3370(a)(1) If the owner/operator chooses to demonstrate compliance by use of "as-purchased" compliant coating materials, then the owner/operator must demonstrate that (i) each coating material used does not exceed 0.04 kg organic HAP per kg coating material as purchased, using the procedures in §63.3370(b); OR (ii) each coating material does not exceed 0.2 kg organic HAP per kg coating solids as purchased, using the procedures in §63.3370(b).
6.B.21	(Unit ID 15) In accordance with §63.3370(a)(2) If the owner/operator chooses to demonstrate compliance by use of "as-applied" compliant coating materials, then you must demonstrate that (i) each coating material used does not exceed 0.04 kg organic HAP per kg coating material as applied, using the procedures set out in §63.3370(c)(1). Use either Equation 1a or 1b of §63.3370 to demonstrate compliance with §63.3320(b)(2), in accordance with §63.3370(c)(5)(1) or (ii) each coating material does not exceed 0.2 kg organic HAP per kg coating solids as applied, using the procedures set out in §63.3370(c)(2). Use Equations 2 and 3 of §63.3370 to determine compliance with §63.3320(b)(3) in accordance with §63.3370(c)(5)(i) or (iii) the monthly average of all coating materials used does not exceed 0.04 kg organic HAP per kg coating material as-applied, using the procedures set out in §63.3370(c)(3). Use Equation 4 of §63.3370 to determine compliance with §63.3320(b)(2) in accordance with §63.3370(c)(5)(ii) or (iv) the monthly average of all coating material used does not exceed 0.2 kg organic HAP per kg coating solids as-applied, using the procedures set out in §63.3370(c)(4). Use Equation 5 of §63.3370 to determine compliance with §63.3320(b)(3) in accordance with §63.3370(c)(5)(ii).

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Condition Number	Conditions
6.B.22	<p>(Unit ID 15) In accordance with §63.3370(a)(3) If the owner/operator chooses to demonstrate compliance by tracking total monthly organic HAP applied, then you must demonstrate that the total monthly organic HAP applied does not exceed the calculated limit based on emission limitations. Follow the procedures set out in §63.3370(d). Show that the monthly HAP applied (Equation 6 of §63.3370) is less than the calculated equivalent allowable organic HAP (Equation 13a or 13b of §63.3370).</p>
6.B.23	<p>(Unit ID 15) In accordance with §63.3370(c) <i>As-applied "compliant" coating materials</i>. If the owner/operator complies by using coating materials that meet the emission standards in <u>§63.3320(b)(2)</u> or <u>(3)</u> as-applied, the owner/operator must demonstrate compliance by following one of the procedures in paragraphs (c)(1) through (4) of §63.3370. Compliance is determined in accordance with paragraph (c)(5) of §63.3370.</p> <p>(c)(1) <i>Each coating material as-applied meets the mass fraction of coating material standard (§63.3320(b)(2)).</i> The owner/operator must demonstrate that each coating material applied at an existing affected source during the month contains no more than 0.04 kg organic HAP per kg coating material applied, and each coating material applied at a new affected source contains no more than 0.016 kg organic HAP per kg coating material applied as determined in accordance with paragraphs (c)(1)(i) and (ii) of §63.3370. You must calculate the as-applied organic HAP content of as-purchased coating materials, which are reduced, thinned, or diluted prior to application.</p> <p>(c)(1)(i) Determine the organic HAP content or volatile organic content of each coating material applied on an as-purchased basis in accordance with <u>§63.3360(c)</u>.</p> <p>(c)(1)(ii) Calculate the as-applied organic HAP content of each coating material using Equation 1a or 1b of this section.</p> <p>(c)(2) <i>Each coating material as-applied meets the mass fraction of coating solids standard (§63.3320(b)(3)).</i> The owner/operator must demonstrate that each coating material applied at an existing affected source contains no more than 0.20 kg of organic HAP per kg of coating solids applied and each coating material applied at a new affected source contains no more than 0.08 kg of organic HAP per kg of coating solids applied. The owner/operator must demonstrate compliance in accordance with paragraphs (c)(2)(i) and (ii) of §63.3370.</p> <p>(c)(2)(i) Determine the as-applied coating solids content of each coating material following the procedure in <u>§63.3360(d)</u>. The owner/operator must calculate the as-applied coating solids content of coating materials which are reduced, thinned, or diluted prior to application, using Equation 2 and 3 of §63.3370:</p> <p>(c)(3) <i>Monthly average organic HAP content of all coating materials as-applied is less than the mass percent limit (§63.3320(b)(2)).</i> Demonstrate that the monthly average as-applied organic HAP content of all coating materials applied at an existing affected source is less than 0.04 kg organic HAP per kg of coating material applied, and all coating materials applied at a new affected source are less than 0.016 kg organic HAP per kg of coating material applied, as determined by Equation 4 of §63.3370.</p> <p>(c)(4) <i>Monthly average organic HAP content of all coating materials as-applied is less than the mass fraction of coating solids limit (§63.3320(b)(3)).</i> Demonstrate that the monthly average as-applied organic HAP content on the basis of coating solids applied of all coating materials applied at an existing affected source is less than 0.20 kg organic HAP per kg coating solids applied, and all coating materials applied at a new affected source are less than 0.08 kg organic HAP per kg coating solids applied, as determined by Equation 5 of §63.3370.</p>

PLEASE ENSURE THAT ALL UNITS REFERENCED IN 6.B CONDITIONS ARE
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Condition Number	Conditions
6.B.24	<p>(Unit ID 15) In accordance with §63.3370(c)(5) The affected source is in compliance with emission standards in §63.3320(b)(2) or (3) if:</p> <p>(c)(5)(i) The organic HAP content of each coating material as-applied at an existing affected source is no more than 0.04 kg organic HAP per kg coating material or 0.2 kg organic HAP per kg coating solids, or</p> <p>(c)(5)(ii) The monthly average organic HAP content of all as-applied coating materials at an existing affected source are no more than 0.04 kg organic HAP per kg coating material or 0.2 kg organic HAP per kg coating solids</p>
6.B.25	<p>(Unit ID 15) In accordance with §63.3410(a) Each owner/operator of an affected source subject to this subpart must maintain the records specified in paragraphs (a)(1) and (2) of §63.3410 on a monthly basis in accordance with the requirements of §63.10(b)(1):</p> <p>(a)(1) Records specified in §63.10(b)(2) of all measurements needed to demonstrate compliance with this standard, including:</p> <p>(a)(1)(i) Continuous emission monitor data in accordance with the requirements of §63.3350(d);</p> <p>(a)(1)(iii) Organic HAP content data for the purpose of demonstrating compliance in accordance with the requirements of §63.3360(c);</p> <p>(a)(1)(iv) Volatile matter and coating solids content data for the purpose of demonstrating compliance in accordance with the requirements of §63.3360(d); and</p> <p>(a)(1)(vi) Material usage, organic HAP usage, volatile matter usage, and coating solids usage and compliance demonstrations using these data in accordance with the requirements of §63.3370(b), (c), and (d).</p> <p>(a)(2) Records specified in §63.10(c) for each CMS operated by the owner or operator in accordance with the requirements of §63.3350(b).</p>

PART 7.0 ADDITIONAL CONDITIONS

A. SPECIFIC CONDITIONS

Condition Number	Conditions
7.A.1	<p>The following activities shall be allowed, without a construction permit, or without revising or reopening the operating permit with proper advanced notification unless otherwise specified by S.C. Regulation 61-62.70 or any other State or Federal requirement. The activity will not result in emissions that will exceed any limit in this permit, or emission source's and facility's potential to emit; the activity itself is not considered a modification under 40 CFR Part 60, 61 or 63. 40CFR63 (MACT) related activities are not covered under this permitting flexibility condition.</p> <p>As part of this permit flexibility procedure the facility shall keep an on-site implementation log (OSIL) to document all changes made under the procedure. The OSIL shall provide detailed contemporaneous information supporting the changes made under this procedure. The OSIL shall be readily available to the Bureau.</p> <p>Existing emission limitations defined in an approved air permit are not exceeded or there is no</p>

ATTACHMENT A

Modeled Emission Rates

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Site

AMBIENT AIR QUALITY STANDARDS - STANDARD 2 (lbs/hr)						
MODELING ID	SOURCE ID	TSP	PM ₁₀	SO ₂	NO ₂	CO
003E_001	Steam Boiler #1	3.59	3.59	30.30	21.23	4.86
003E_002	Steam Boiler #2	2.57	2.57	4.33	15.18	3.48
003E_004	Carotek Oil Heater	1.74	1.74	14.65	10.29	2.35
007E_005	G2 Edge Trim	0.041	0.041	---	---	---
007E_006	G1GR	0.041	0.041	---	---	---
007E_007	G2 Grinder	0.041	0.041	---	---	---
007E_008	G1/G2 Dryer	0.030	0.030	---	---	---
009E_014	Flake Silo	0.041	0.041	---	---	---
009E_015	Box/Tote Airveying	0.0003	0.00022	---	---	---
888E_001	Virgin Silo	0.020	0.020	---	---	---
888E_002	Reclaim Silo	0.030	0.030	---	---	---
888E_035	VSET Edge	0.002	0.002	---	---	---
888E_037	PET Reclaim Building	0.17	0.17	---	---	---
888E_037	PET Reclaim Vacuum	0.17	0.17	---	---	---
17J_001	17J Baghouse	2.314	2.314	---	---	---
17J_003	J012 Flame Treater	0.036	0.036	0.002	0.367	0.092
17J_005/006	J010 Tenter Oven	0.348	0.348	0.016	0.860	7.400
20E_005	E002/E004 Grinders	0.686	0.686	---	---	---
20E_006	E001/E003 Grinders	0.686	0.686	---	---	---
20E_008	A002 Airvey	0.197	0.197	---	---	---
20E_009	A001 Airvey	0.309	0.309	---	---	---
20E_053	A004 Resin Hopper	1.100	1.100	---	---	---
20E_055	A008 Melters A & B	0.308	0.308	---	---	---
20E_058	C007 Drying Oven	0.040	0.040	0.003	0.480	0.400
20E_082	A011 Bulk Rubber Silo	0.050	0.050	---	---	---
21E_003	A014 Antioxidant Melters A & B	0.070	0.070	---	---	---
026E-001	G-3 Aspirator Feed Hoppers	--	--			
026E-004	G-3 Aspirator Feed Hoppers (fugitives)	--	--			
026E-005	G-3Coater #1	--	--			
026E-006	G-3 Floor Scrap Grinder 1	0.004	0.000245			
026E-007	G-3Floor Scrap Grinder 2	0.038	0.0057			
026E-008	G-3 Floor Scrap Grinder 3	0.00107	0.00107			
026E-009	G-3 Floor Scrap Grinder 4	--	--			
026E-010	G-3 Oven #1	--	--			
026E-010	G-3 Even #1	--	--			
026E-010	G-3 Even #1	--	--			
026E-011	G-3 Oven #1	--	--			

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Modeled Emission Rates

Site

3M Company (Greenville ~~Film Plant~~)

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AMBIENT AIR QUALITY STANDARDS - STANDARD 2 (lbs/hr)						
MODELING ID	SOURCE ID	TSP	PM ₁₀	SO ₂	NO ₂	CO
026E-012	G-3 Oven #1	--	--			
026E-013	G-3 Oven #1	--	--			
026E-013	G-3 Oven #1	--	--			
026E-014	G-3 Oven #1	--	--			
026E-015	G-3 Oven #1	--	--			
026E-016	G-3 Oven #1	--	--			
026E-017	G-3 Edge Trim Grinder 1	--	--			
026E-018	G-3 Edge Trim Grinder 2	--	--			
026E-019	G-3 Coater #2	--	--			
026E-020	G-3 Oven #2	--	--			
026E-021	G-3 Die/Casting Wheel	0.58	0.58			
026E-022	G-3 Extruder Vacuum Pump	--	--			
026E-023	G-3 Die/Casting Wheel	0.62	0.58			
026E-004	G-3 Aspirator Feed Hoppers (fugitives)	--	--			
026E-002	G-3 Resin Charging Hopper (fugitives)	--	--			
026E-003	G-3 Resin Dryer	--	--			
026E-003	G-3 Oven #2 (fugitives)	--	--			
026E-024	G-3 Die Maintenance (fugitives)	--	--			
026E-025	G-3 Chain Maintenance (fugitives)	--	--			
026E-026	G-3 Clip Cooling (fugitives)	--	--			
FACILITY TOTAL		18.87	15.79	49.300	48.406	18.582

*New baghouse will split the emissions of Dryer Tower G1 and Dryer Tower G2 (G1 emissions are listed in Deferral Table). Baghouse-BH5(old) and BH13 (new).

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3M Company (Greenville Film Plant)

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CLASS II PREVENTION OF SIGNIFICANT DETERIORATION - STANDARD 7				
MODELING ID	SOURCE ID	PM ₁₀ (Lbs/Hr)	SO ₂ (Lbs/Hr)	NO ₂ (Lbs/Hr)
17J_003	J012 Flame Treater	---	---	0.367
17J_005/006	J010 Tenter Oven	---	---	0.860
20E_058	C007 Drying Oven	0.040	0.003	0.480
20E_082	A011 Bulk Rubber Silo	0.050	---	---
21E_003	A014 Antioxidant Melters A & B	0.070	---	---
026E-006	G-3 Floor Scrap Grinder 1	0.000245		
026E-007	G-3 Floor Scrap Grinder 2	0.0057		
026E-008	G-3 Floor Scrap Grinder 3	0.00107		
026E-021	G-3 Die/Casting Wheel	0.58		
026E-023	G-3 Die/Casting Wheel	0.58		
009E_015	Box/Tote Airveying	0.00022		
FACILITY TOTAL		1.327	0.003	1.707

AIR TOXICS – LEVEL I DE MINIMIS ANALYSIS			
POLLUTANT	CAS NUMBER	EMISSION RATE (LBS/DAY)	DE MINIMIS (LBS/DAY)
Diethanolamine	111-42-2	1.44	1.548
Glycol Ethers	+	30.00	+
Hexane	110-54-3	0.312	10.8000
Methyl Ethyl Ketone	78-93-3	12.00	177.000
Methyl Isobutyl Ketone	108-10-1	0.24	24.600
2,2,4-Trimethylpentane	540-84-1	0.312	105.000

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TOXIC AIR POLLUTANTS MODELED - STANDARD 8, TABLE I (lbs/hr)										
MODELING ID	SOURCE ID	Acetaldehyde	Antimony Compounds	1,4-Dioxane	Ethyl Acrylate	Formaldehyde	Ethylene Glycol	Methanol	Methyl Methacrylate	Sodium Hydroxide
001E_002	G1 Tenter	---	0.017	---	0.11	0.007	0.17	0.5	1.05	0.168
001E_057	G1XT G1 Extruder	0.13	---	---	---	---	---	---	---	---
001E_097	PP2 Esterification System #2	0.0001	---	6.67E-05	---	---	0.00187	0.00047	---	---
001E_098	Polycon #4	0.0001	---	6.67E-05	---	---	0.00187	0.00047	---	---
001E_099	Polycon #3	0.0001	---	6.67E-05	---	---	0.00187	0.00047	---	---
001E_101	Polycon #2	0.0001	---	6.67E-05	---	---	0.00187	0.00047	---	---
001E_102	Polycon #1	0.0001	---	6.67E-05	---	---	0.00187	0.00047	---	---
001E_103	PP1 Esterification System #1	0.0001	---	6.67E-05	---	---	0.00187	0.00047	---	---
001E_112	Numerous sources	0.0002	---	0.0004	---	---	0.0146	0.0272	---	---
007E_001	G2GC G Coater	---	0.017	---	0.11	0.007	0.17	0.5	1.05	0.168
007E_002	G2GC G Coater	---	0.017	---	0.11	0.007	0.17	0.5	1.05	0.168
007E_003	G2PC P Coater	---	0.017	---	0.11	0.007	0.17	0.5	1.05	0.168
007E_004	G2PC P Coater	---	0.017	---	0.11	0.007	0.17	0.5	1.05	0.168

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TOXIC AIR POLLUTANTS MODELED - STANDARD 8, TABLE I (lbs/hr)										
MODELING ID	SOURCE ID	Acetaldehyde	Antimony Compounds	1,4-Dioxane	Ethyl Acrylate	Formaldehyde	Ethylene Glycol	Methanol	Methyl Methacrylate	Sodium Hydroxide
007E_073	G2 Extruder	0.22	---	---	---	---	---	---	---	---
009E_005	Triethylene Glycol Wash Tank West	0.004	---	---	---	---	---	---	---	---
009E_006	Triethylene Glycol Wash Tank East	0.004	---	---	---	---	---	---	---	---
009E_011	Filter Wash Station	0.13	---	---	---	---	---	---	---	---
888E_003	EJT1 Vertical Ejector Tower	2.528	---	---	---	---	1.397	3.069	---	---
888E_004	EJT2 Vertical Ejector Tower	2.528	---	---	---	---	1.397	3.069	---	---
888E_005	Methanol Tank	---	---	---	---	---	6.2E-06	0.3703	---	---
888E_006	Virgin EG Tank	---	---	---	---	---	0.4114	---	---	---
888E_007	Recovered EG Tank	---	---	---	---	---	0.4114	0.002	---	---
20E_001	C002 LAB Station and Dryer	---	---	---	---	---	0.01	0.004	---	---
026E_005	G-3 Coater #1	0.0	0.0	0.0	0.08	0.1476	0.0	0.72	0.03	0.0
FACILITY TOTAL		5.5448	0.085	0.0008	0.63	0.1826	4.5026	9.764	5.28	0.84

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TOXIC AIR POLLUTANTS MODELED - STANDARD 8, TABLE II (lbs/hr)							
MODELING ID	SOURCE ID	Benzene	Cumene	Ethylbenzene	Toluene	Xylene	Vinylidene Chloride
20E_001	C002 LAB Station and Dryer	0.037	0.029	36.254	42.437	120.508	0.0
20E_006	E001/E003 Grinders	---	---	---	0.009	0.027	0.0
88E_012	LAB Tank	---	---	0.1206	0.077	0.405	0.0
88E_013	Solvent Tank	---	---	0.17	0.199	0.565	0.0
88E_014	Backup Solvent Tank	---	---	0.17	0.199	0.565	0.0
026E-005	G-3 Coater #1	0.0	0.0	0.0	0.0	0.0	0.449
FACILITY TOTAL		0.037	0.029	36.7146	42.921	122.07	0.449

Attachment F

Ambient Air Quality Modeling & Analysis

**THIS ATTACHMENT CONTAINS PREVIOUSLY
SUBMITTED MODELING DOCUMENTATION:
MODELING IS NOT PERFORMED AS PART
OF THIS TITLE V RENEWAL APPLICATION.**

Greenville Site – Particulates – December 2009

AMBIENT AIR QUALITY ANALYSIS

December 2009

This memorandum summarizes the results from air dispersion modeling for the 3M facility located in Greenville, South Carolina. The 3M facility is renewing its Title V permit for the Tape facility. The South Carolina Department of Health & Environmental Control (SCDEHC) requires a modeling analysis for Title V renewal applications if changes have occurred at the facility that may affect emission sources and if those changes have not been previously modeled. The last modeling analysis for the facility was completed in January 2004. Since that time, the only changes that have occurred at the Tape facility affect particulate emitting sources. Therefore, as required by SCDEHC, the purpose of the modeling is to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS) and the South Carolina Ambient Air Quality Standards (SCAAQS) for particulate matter less than 10 microns (PM_{10}) and total suspended particulate (TSP).

Please note the model does include sources from both the 3M Tape and Film plants. The Tape and Film plants operate under separate Title V permits but are located on the same property. As indicated above, only the Tape plant is renewing its Title V permit at this time.

The modeling analysis was completed with the AMS/EPA Regulatory Model with Plume Rise Model Enhancements (AERMOD-PRIME). Modeling of the facility's potential emissions using AERMOD-PRIME demonstrates compliance with NAAQS/SCAAQS. This report provides a discussion of the air dispersion modeling analysis.

1.0 MODELING DESCRIPTION

This section summarizes the source parameters, emission rates, building downwash parameters, receptor grid and meteorological data utilized in the analysis.

1.1 Point Source Parameters

The AERMOD-PRIME, version 09292 was used to complete the modeling analysis. The specific parameters include: NAD83 UTM coordinates, base elevation, PM emission rate, stack height, stack temperature, exhaust flowrate, exit velocity, and stack diameter. The PM emission rate represents the emission rate for both PM_{10} and TSP. The emission rate is the same for both pollutants. These parameters are summarized in Table 1.

Table 1. Modeling Parameters

Model Stack ID	Stack Description	UTM NAD83		Base Elevation		PM Emission Rate		Stack Height		Stack Temp		Airflow (acfm)	Exit Velocity		Stack Diameter	
		E (m)	N (m)	(ft)	(m)	(g/s)	(lb/hr)	(ft)	(m)	(F)	(K)		(ft/sec)	(m/s)	(ft)	(m)
003E_001	Steam Boiler #1 - Gas Fired	375429.47	3846024.25	930.48	283.61	1.70E-01	1.35	41.00	12.50	561.00	567.04	10,730	25.30	7.71	3.00	0.91
003E_002	Steam Boiler #2 - Gas Fired	375430.81	3846017.95	929.66	283.36	3.96E-02	0.31	50.00	15.24	561.00	567.04	7,691	10.20	3.11	4.00	1.22
003E_004	CARO Boiler - Gas Fired	375434.93	3846034.89	930.87	283.73	8.20E-02	0.65	55.00	16.76	608.00	593.15	5,365	12.65	3.86	3.00	0.91
007E_005	Airveying G1 Coater Grinder	375411.33	3846192.89	926.67	282.45	2.12E-01	1.68	14.00	4.27	310.00	427.59	3,488	43.80	13.35	1.30	0.40
007E_006	Airveying	375408.49	3846191.77	926.54	282.41	5.04E-03	0.04	19.10	5.82	294.00	418.71	---	0.03	0.01	0.30	0.09
007E_007	Airveying G2 Edge Trim	375380.83	3846194.82	924.67	281.84	5.04E-03	0.04	3.58	1.09	294.00	418.71	7,383	39.17	11.94	2.00	0.61
007E_008	Airveying	375410.19	3846100.31	928.84	283.11	3.78E-03	0.03	14.38	4.38	311.00	428.15	3,319	51.45	15.68	1.17	0.36
009E_014	Flake Silo Airveying G1/G2 Dryer	375352.83	3846090.07	928.05	282.87	5.04E-03	0.04	8.75	2.67	294.00	418.71	6,137	130.23	39.69	1.00	0.30
009E_015	Box/Tote airveying	375332.26	3846052.39	924.77	281.87	2.52E-05	0.0002	15.00	4.57	Ambnt	0	14,996	79.56	24.25	2.00	0.61
017J_001	J 001 through 006, 013, 014, 018, 019	375605.32	3845985.52	923.79	281.57	2.91E-01	2.31	25.00	7.62	Ambnt	0	---	0.03	0.01	3.41	1.04
017J_003	J 012 (Flame Treater)	375521.92	3845959.69	931.14	283.81	2.52E-03	0.02	18.42	5.61	320.00	433.15	---	0.03	0.01	1.83	0.56
017J_005	J 010 (Tenter Oven)	375545.30	3845939.77	934.28	284.77	5.67E-03	0.05	46.00	14.02	370.00	460.93	8,836	20.83	6.35	3.00	0.91
017J_006	J 010 (Tenter Oven)	375549.87	3845950.29	933.50	284.53	5.67E-03	0.05	46.00	14.02	370.00	460.93	---	0.03	0.01	2.66	0.81
020E_005	J 016, 017 & J 013	375594.16	3845908.98	930.64	283.66	4.28E-02	0.34	43.00	13.11	79.00	299.26	---	0.03	0.01	2.00	0.61
020E_006	J 016, 017 & J 013	375598.93	3845910.00	930.12	283.50	6.93E-02	0.55	43.00	13.11	90.00	305.37	---	0.03	0.01	2.00	0.61
020E_008	A 002	375550.83	3845905.48	932.81	284.32	6.30E-03	0.05	52.00	15.85	82.00	300.93	---	0.03	0.01	0.67	0.20
020E_009	A 001	375495.78	3845882.84	924.51	281.79	9.95E-02	0.79	47.00	14.33	Ambnt	0	---	0.03	0.01	0.67	0.20
020E_053	A 004	375545.24	3845902.66	932.05	284.09	7.06E-02	0.56	56.90	17.34	Ambnt	0	---	0.03	0.01	1.09	0.33
020E_055	A 008, 010	375548.11	3845896.28	931.10	283.80	1.03E-01	0.82	60.73	18.51	79.00	299.26	7,565	52.42	15.98	1.75	0.53
020E_058	C 007	375541.83	3845934.16	934.51	284.84	5.04E-03	0.04	48.00	14.63	176.00	353.15	14,750	53.44	16.29	2.42	0.74
020E_075	E 006	375489.89	3845898.62	925.59	282.12	4.79E-02	0.38	66.83	20.37	Ambnt	0	---	0.03	0.01	0.75	0.23
020E_076	E 007	375490.91	3845893.84	925.16	281.99	4.79E-02	0.38	66.83	20.37	Ambnt	0	---	0.03	0.01	0.75	0.23
020E_077	E 008	375491.92	3845889.07	924.77	281.87	4.79E-02	0.38	66.83	20.37	Ambnt	0	---	0.03	0.01	0.75	0.23
020E_082	A 011	375490.65	3845882.08	923.79	281.57	6.30E-03	0.05	47.00	14.33	Ambnt	0	---	0.03	0.01	0.67	0.20
021E_003	A 014	375574.20	3845921.90	933.56	284.55	8.82E-03	0.07	48.25	14.71	87.00	303.71	7,726	65.40	19.93	1.58	0.48
888E_001	Airveying	375395.18	3846068.25	929.79	283.40	2.52E-03	0.02	3.58	1.09	294.00	418.71	853	32.17	9.81	0.75	0.23
888E_002	Airveying	375397.28	3846064.52	930.25	283.54	3.78E-03	0.03	3.92	1.19	294.00	418.71	2,230	68.70	20.94	0.83	0.25
888E_015	A 015	375551.51	3845820.85	916.01	279.20	7.56E-03	0.06	41.00	12.50	Ambnt	0	---	0.03	0.01	3.75	1.14
888E_019	A 016	375550.15	3845826.45	916.60	279.38	7.56E-03	0.06	41.00	12.50	Ambnt	0	---	0.03	0.01	3.75	1.14
888E_037	Building/Vacuum	375331.52	3846112.88	926.80	282.49	5.04E-03	0.04	45.00	13.72	294.00	418.71	55,371	47.00	14.33	5.00	1.52
888E_038	G1 Edge Trim Baghouse	375411.33	3846192.89	926.67	282.45	1.92E-03	0.02	11.67	3.56	80.00	299.82	5,725	68.33	20.83	1.33	0.41
888E_039	G1 and G2 Drying Tower Baghouse	375475.30	3846255.78	921.98	281.02	7.56E-03	0.06	14.50	4.42	Ambnt	0	10,053	30.00	9.14	2.67	0.81
026E_023	G-3 Film Line	375335.80	3846189.48	922.01	281.03	1.51E-02	0.12	56.00	17.07	80.00	299.82	22,470	35.79	10.91	3.65	1.11
026E_021	G-3 Film Line	375336.62	3846186.18	921.95	281.01	1.51E-02	0.12	56.00	17.07	120.00	322.04	22,431	33.49	10.21	3.77	1.15
026E_007	G-3 Film Line	375311.80	3846144.38	923.39	281.45	1.57E-03	0.0125	15.00	4.57	Ambnt	0	4,999	59.67	18.19	1.33	0.41
026E_006	G-3 Film Line	375312.90	3846153.98	923.16	281.38	3.02E-04	0.0024	15.00	4.57	Ambnt	0	29,992	70.72	21.55	3.00	0.91

Ambnt = Exhaust gases at ambient temperature. Represented in AERMOD input files with a value of zero (0) consistent with USEPA and SCDHEC guidelines.

1.2 Building Downwash

To assess the impact of building downwash, building dimensions used in the AERMOD-PRIME model were calculated using the USEPA Building Profile Input Program – Plume Rise Model Enhancements (BPIP-PRIME), version 04274. Locations for stacks and buildings were input into BPIP-PRIME in meters.

1.3 Receptor Grid

Receptor locations were based on SCDHEC guidelines. The receptors were based on a Cartesian receptor grid surrounding the facility with discrete receptors placed along the ambient air boundary. Receptors were not placed on 3M property. Receptors include:

- Discrete receptors along the property boundary at 50-meter intervals,
- Cartesian receptors at a resolution of 100 meters from the property line outward to a distance of 1.0 kilometer, and
- Cartesian receptors at a resolution of 1,000 meters from 1.0 kilometers outward to a distance of 10.0 kilometers.

Receptor elevations were determined using the AERMOD terrain preprocessor (AERMAP), version 06341, and USGS 7.5-minute resolution Digital Elevation Model (DEM) files. The option of NADA = 4 was used to reference the NAD83 anchor coordinates based on the AERMAP users manual.

1.4 Meteorological Data

For refined modeling analyses, USEPA and MPCA guidelines specify the use of either one (1) year of on-site meteorological data, or five (5) years of representative, hourly National Weather Service (NWS) observations. Because no on-site data existed, NWS data were relied upon in this analysis. The meteorological data used in this analysis was processed and provided by SCDHEC using the AERMOD meteorological preprocessor (AERMET), version 06341. This data was downloaded from the SCDHEC website. The data consisted of hourly surface observation data from the Greenville/Spartanburg, South Carolina meteorological station and concurrent upper air sounding data from the Greensboro, South Carolina meteorological station for meteorological years 2002 through 2006.

1.5 Background Concentrations

Background concentrations accounting for the impacts from natural background levels, minor background sources, and long-range transport, were added to the facility impact and regional sources impact to demonstrate compliance with the NAAQS/SCAAQS. Pollutant concentrations to estimate ambient air background concentrations were obtained from the monitoring data available on the SCDHEC website. TSP background concentrations are based on TSP monitor located in Greenville. There is no PM₁₀ monitor located in Greenville. PM₁₀ background values for this modeling analysis were chosen as the largest 24-hour background value from the city of Columbia. All of the other PM₁₀ monitors in the state are either farther away or are located in cities that are smaller than Greenville. Table 2 summarizes the background concentrations for the modeling analysis.

Table 2. Ambient Air Background Concentrations

	TSP	PM ₁₀	
	Annual Average	24-Hour Average	Annual Average
Concentration (µg/m ³)	28.6	61	22.1
Monitor	Greenville CHD	Columbia – Olympia Site	

2.0 DISPERSION MODELING RESULTS

Modeling of the facility's potential emissions using AERMOD-PRIME demonstrates compliance with NAAQS/SCAAQS for PM₁₀ and TSP. 3M's maximum impacts computed by AERMOD-PRIME were added to the background concentrations to determine a total predicted impact. The total impacts were compared to the applicable air quality standards presented in Table 3. A CD-ROM containing all electronic modeling files from the analysis is included with this memorandum.

Table 3. 3M Greenville PM₁₀/TSP Ambient Air Impacts

Impact	TSP	PM ₁₀	
	Annual Average	24-Hour Average	Annual Average
AERMOD Results	15.74 ^c	65.00 ^d	15.74 ^c
Background Concentration	28.6	61	22.1
Total Predicted Impact	44.34	126.00	37.84
National Ambient Air Quality Standard	---	150 ^b	50 ^a
South Carolina Ambient Air Quality Standard	75 ^a	150 ^b	50 ^a

^a Never to be exceeded.

^b Not to be exceeded more than once per year per receptor location.

^c Concentration represents the highest high-1st high from the one five-year model runs.

^d Concentration represents the highest high-6th high from the one five-year model runs.

G3 Film Line – Air Toxics – December 2006

**Table 2 Modeling Results for Two Air Toxics; Vinylidene Chloride and
Formaldehyde**

**Greenville Air Toxic Dispersion Modeling Analysis
G-3 Film Line
Summary of Selected Model Options**

<u>Option</u>	<u>Selection</u>
Model	AERMOD version 04300
Regulatory Default Mode	Default wind profile exponents Default wind speed categories Default potential temperature gradients
Building Downwash	BPIP-PRIME version 04274
Meteorological Data	5 year period 1987 -1991
Surface Station	Greenville/Spartanburg, SC (NWS Station 03870)
Upper Air Station	Athens, GA (NWS Station 13873)
Elevation	948 ft Obtained from agency website (http://www.scdhec.gov/eqc/baq/html/modeling.html)
Dispersion Algorithm	Rural
Terrain	Elevated, meters Processed with AERMAP
Pollutants	Unit Emission Rate (1 g/s)
Allowable Increment	
MAAC	15 ug/m3 24-Hour
Receptor Grids	
Spacing	100 m
Extent	From property line extending to 1000 m
Property Line Receptors	Surrounding entire property at 50 m spacing
On-Site Receptors	None included

Air Dispersion Modeling Summary
Air Toxics
G-3 Film Line
3M Greenville, South Carolina
December 21, 2006

Air Dispersion Modeling was conducted to demonstrate attainment with the air toxics thresholds for formaldehyde emissions from the proposed G-3 film line at 3M's Greenville, South Carolina facility. All modeling input data is presented in Table 1. The results are attached.

AERMOD-PRIME (version 043000) was used with regulatory default options selected. Receptors were placed around the property line at 50-meter spacing. A fine receptor grid with 100-meter spacing was extended out to 1000 meters beyond the property line, and a coarse receptor grid with 1000-meter spacing was extended out to 10 kilometers beyond the property line.

Building downwash was calculated using BPIP-PRIME. Five years of meteorological data was selected per the Air Modeling Guideline. Data collected at Greenville/Athens from 1987-1991 was used with an elevation of 948 feet.

3M Greenville
Air Toxics Modeling Analysis
Modeling Results
December 21, 2006

Formaldehyde Emission Rate (g/s) = 0.045

Modeling was completed for stack vent 026-005 using an unit emission rate of 1 g/s.

Modeled results were multiplied by the actual formaldehyde emission rate to obtain results for comparison to the MAAC.

Model Output

Pollutant	Averaging Period	Year	24-Hour Maximum Modeled Off-Property Impact (ug/m3) @ 1 g/s	Maximum Modeled Off-Property Impact (ug/m3) for formaldehyde	South Carolina *MAAC Standard 8 Limit (ug/m3)	Off-Property Impact Exceeds State Limit? (yes/no)
Formaldehyde	24-hour	1987	76.86	3.48	15	no
		1988	71.63	3.24	15	no
		1989	77.55	3.51	15	no
		1990	91.33	4.14	15	no
		1991	94.63	4.29	15	no

* Maximum Allowable Ambient Air Concentration (MAAC)

Level 1

Vent #	Source	Process	Air Toxics	CAS #	lbs/hr	lbs/day	MAAC	lb/hr / MAAC	Above Threshold?
026-010-10	Pretenter Coatings	Pre-Tent Coater 1							5.00E-04
			Ethyl acrylate	140-88-5	0.08	2.02	102.5	8.21E-04	Yes
			Methyl Methacrylate	80-62-6	0.03	0.67	10250	2.74E-06	No
			Acrylonitrile	107-13-1	0.02	0.47	22.5	8.72E-04	Yes
			Formaldehyde	50-00-0	0.36	8.63	15	2.40E-02	Yes
			Methanol	67-56-1	0.72	17.22	1310	5.48E-04	Yes
			Triethylamine	121-44-8	0.18	4.31	207	8.67E-04	Yes
			Vinylidene Cl	75-35-4	1.09	26.10	99	1.10E-02	Yes
			Hexane	110-54-3	7.25E-04	1.74E-02	900	8.06E-07	No
			MEK	78-93-3	0.12	3.00	14750	8.47E-06	No
			Ethylene Glycol	107-21-1	0.05	1.13	650	7.23E-05	No
			Ethylene Imine	151-56-4	9.45E-09	2.27E-07	5	1.89E-09	No

Level 2

Vent #	Source	Process	Air Toxics	CAS #	lbs/hr	lbs/day	MAAC	Table 3 Value	A * B	Above MAAC?
026-010-10	Pretenter Coatings	Pre-Tent Coater 1				A		B		
			Ethyl acrylate	140-88-5	0.08	2.02	102.5	15.50	31.30	No
			Acrylonitrile	107-13-1	0.02	0.47	22.5	15.50	7.30	No
			Formaldehyde	50-00-0	0.36	8.63	15	15.50	133.73	Yes
			Methanol	67-56-1	0.72	17.22	1310	15.50	266.98	No
			Triethylamine	121-44-8	0.18	4.31	207	15.50	66.74	No
			Vinylidene Cl	75-35-4	1.09	26.10	99	15.50	404.62	Yes

Level 3 Screening Model

Modeling Parameters:

G-3 Pre-Tent

Height (ft)	56
Height (m)	17.07
Diameter (ft)	1.78
Diameter (m)	0.54
Exit Velocity (ft/sec)	33.33
Exit Velocity (m/sec)	10.16
Temp (F)	70.00
Temp (K)	294.00
Distance from Property (ft)	295.00
Distance from Property (m)	89.94

Building 26 Parameters:

Height (ft)	50.00
Height (m)	15.24
Length (ft)	600.00
Length (m)	182.93
Width (ft)	150.00
Width (m)	45.73

Emission Rate:

Pollutant	lb/hr	g/s
Formaldehyde	0.359	0.045
Vinylidene Cl	1.088	0.137

Screen Modeling at 1 g/s (unit Emission Rate)	ug/m3
Screening Modeling Result @ 400 ft	758

Screening Converted to Actual Emission Rates for Each Pollutant

Pollutant	1-hour (ug/m3)	24-hour (ug/m3)	MAAC (ug/m3)	Above MAAC?
Formaldehyde	34.33	24.03	15	Yes
Vinylidene Cl	103.88	72.72	99	No

12/12/06
15:04:56

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

G3 Pre-Tenter

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = 1.00000
STACK HEIGHT (M) = 17.0700
STK INSIDE DIAM (M) = .5400
STK EXIT VELOCITY (M/S) = 10.1600
STK GAS EXIT TEMP (K) = 294.0000
AMBIENT AIR TEMP (K) = 293.0000
RECEPTOR HEIGHT (M) = .0000
URBAN/RURAL OPTION = RURAL
BUILDING HEIGHT (M) = 15.2400
MIN HORIZ BLDG DIM (M) = 45.7300
MAX HORIZ BLDG DIM (M) = 182.9300

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = .025 M**4/S**3; MCM. FLUX = 7.500 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
100.	743.5	6	1.5	2.0	10000.0	17.68	4.07	9.61	SS
200.	613.9	6	1.5	2.0	10000.0	17.68	7.73	12.76	SS
300.	447.6	6	1.5	2.0	10000.0	17.68	11.23	13.74	SS
400.	387.7	6	1.0	1.3	10000.0	19.68	14.64	12.78	SS
500.	345.1	6	1.0	1.3	10000.0	19.68	17.97	13.76	SS
600.	305.8	6	1.0	1.3	10000.0	19.68	21.24	14.44	SS
700.	277.2	6	1.0	1.3	10000.0	19.68	24.46	15.29	SS
800.	252.8	6	1.0	1.3	10000.0	19.68	27.63	16.12	SS
900.	231.6	6	1.0	1.3	10000.0	19.68	30.78	16.92	SS
1000.	213.2	6	1.0	1.3	10000.0	19.68	33.88	17.70	SS

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 100. M:

122.	758.0	6	1.5	2.0	10000.0	17.68	4.93	10.64	SS
------	-------	---	-----	-----	---------	-------	------	-------	----

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
89.	731.8	6	2.0	2.7	10000.0	17.29	3.65	10.02	SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

 *** REGULATORY (Default) ***
 PERFORMING CAVITY CALCULATIONS
 WITH ORIGINAL SCREEN CAVITY MODEL
 (BRODE, 1988)

*** CAVITY CALCULATION - 1 ***		*** CAVITY CALCULATION - 2 ***	
CONC (UG/M**3)	= 1.0000	CONC (UG/M**3)	= 1.0000
CRIT WS @10M (M/S)	= 99.99	CRIT WS @10M (M/S)	= 99.99
CRIT WS @ HS (M/S)	= 99.99	CRIT WS @ HS (M/S)	= 99.99
DILUTION WS (M/S)	= 99.99	DILUTION WS (M/S)	= 99.99
CAVITY HT (M)	= 15.73	CAVITY HT (M)	= 15.24
CAVITY LENGTH (M)	= 80.02	CAVITY LENGTH (M)	= 45.73
ALONGWIND DIM (M)	= 45.73	ALONGWIND DIM (M)	= 182.93

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

 END OF CAVITY CALCULATIONS

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	758.0	122.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

Greenville Site – Criteria Pollutants, Air Toxics – June/July 2004

Air Dispersion Modeling Summary
Criteria Pollutants
3M Greenville, South Carolina
June 3, 2004

Air Dispersion Modeling was conducted to demonstrate attainment with the National Ambient Air Quality Standards (NAAQS) for criteria pollutant emissions from 3M's Greenville, South Carolina facility. Site modeling of Hazardous Air Pollutants (HAPs) was also conducted. All modeling input data is presented in Table 1. The NAAQS results are attached in Table 2, and the HAPs results are in table 3. A brief summary of selected model options is presented in Table 4.

ISCST (version 02035) was used with regulatory default options selected. Receptors were placed around the property line at 50-meter spacing. A fine receptor grid with 100-meter spacing was extended out to 1000 meters beyond the property line, and a coarse receptor grid with 1000-meter spacing was extended out to 10 kilometers beyond the property line.

Building downwash was calculated using BPIP. Five years of meteorological data was selected per the Air Modeling Guideline. Data collected at Greenville/Athens from 1987-1991 was used with an anemometer height of 7.0 meters.

**Air Dispersion Modeling Summary
Criteria Pollutants
3M Greenville, South Carolina
July 8, 2004**

Facility-wide air dispersion modeling was conducted to demonstrate attainment with the South Carolina Maximum Allowable Ambient Air Concentration (MAAC) Standard 8 for Toxic Air Pollutant emissions from 3M's Greenville, South Carolina facility. All modeling input data is attached.

ISCST (version 02035) was used with regulatory default options selected. The exhaust velocity of the modeled stacks was set to 0.01 meters per second since they exhaust at 45 degrees down. Receptors were placed around the property line at 50-meter spacing. A fine receptor grid with 100-meter spacing was extended out to 1000 meters beyond the property line, and a coarse receptor grid with 1000-meter spacing was extended out to 10 kilometers beyond the property line.

Building downwash was calculated using BPIP. Five years of meteorological data was selected per the Air Modeling Guideline. Data collected at Greenville/Athens from 1987-1991 was used with an anemometer height of 7.0 meters.

Table 4
3M Greenville
Dispersion Modeling Analysis
Criteria Pollutants
Summary of Selected Model Options

<u>Option</u>	<u>Selection</u>
Model	ISCST3 version 02035
Regulatory Default Mode	All regulatory defaults selected
Building Downwash	BPIP version 95086
Meteorological Data	5 year period 1987 -1991
Surface Station	Greenville/Spartanburg, SC (NWS Station 03870)
Upper Air Station	Athens, GA (NWS Station 13873)
Anemometer Height	7 meters
Dispersion Algorithm	Rural
Terrain	Elevated, meters
Pollutants	NOx, PM10, SOx, CO
Allowable Limits	
NOx	100 ug/m3 Annual
PM 10	50 ug/m3 Annual, 150 ug/m3 24-hour
SOx	80 ug/m3 Annual, 365 ug/m3 24-hour, 1300 ug/m3 3-hour
CO	10,000 ug/m3 8-hour, 40,000 ug/m3 1-hour
Receptor Grids	
Spacing	100 m
Extent	From property line extending to 1000 m, and from property line extending to 10 km at 1 km spacing.
Property Line Receptors	Surrounding entire property at 50 m spacing
On-Site Receptors	None included

Table 1
3M Greenville
Criteria Pollutant Modeling Analysis
Model Input Data
January, 2004

Source Description	X Location (m)	Y-Location (m)	Elevation (ft)	CO Emission Rate (#/hr)	PM Emission Rate (#/hr)	SOx Emission Rate (#/hr)	NOx Emission Rate (#/hr)	VOC Emission Rate (#/hr)	Stack Height (ft)	Stack Temp. (F)	Exhaust Velocity (ft/min)	Stack Diameter (Ft)
Resin Train #1 & 2	375424.27	3845865.47	283	0	0	0	0	0.1599	104.8	310	2	0.67
Steam Jet Vertical Ejector	375364.00	3845821.00	281	0	0	0	0	6.995	12.5	303	1000	8.33
Steam Jet Vertical Ejector	375361.00	3845820.00	281	0	0	0	0	6.995	6.0	304	900	15.00
Virgin Ethylene Glycol	375357.48	3845758.49	281	0	0	0	0	0.412	17.6	294	2	0.33
Recovered Ethylene Glycol Tank	375348.23	3845756.54	281	0	0	0	0	0.006	19.1	294	2	0.33
Recovered Methanol Storage	375384.24	3845713.54	281	0	0	0	0	0.37	18.2	294	2	0.90
TEG Wash Tank West	375325.00	3845900.00	279	0	0	0	0	0.004	32.2	350	498	0.30
TEG Wash Tank East	375326.00	3845901.00	279	0	0	0	0	0.004	31.9	350	600	0.30
Filter Wash Station	375329.00	3845901.00	279	0	0	0	0	0.130	36.2	313	1008	1.30
Extruder	375393.00	3846020.00	284	0	0	0	0	0.13	66.3	294	2	30.10
G1 Tenter	375414.48	3845937.03	282	0	0	0	0	9.00	51.1	403	1396	1.40
Airveying G1 Coater Grinder	375394.03	3845983.11	284	0	1.68	0	0	0.00	14.0	310	2628	1.30
G2 Extruder	375394.26	3845893.47	281	0	0	0	0	0.22	60.0	294	205	1.80
Airveying G2 Edge Trim	375363.53	3845985.04	283	0	0.04	0	0	0	3.6	294	2350	2.00
Airveying	375391.19	3845981.99	284	0	0.04	0	0	0	19.1	294	2	0.30
P Coater	375395.96	3845913.18	281	0	0	0	0	4.60	64.1	332	5000	1.17
P Ctr	375392.84	3845912.52	281	0	0	0	0	4.60	64.1	329	2714	1.17
G Coater	375383.16	3845976.91	284	0	0	0	0	4.60	69.2	330	2363	2.17
G Ctr	375381.36	3845976.50	284	0	0	0	0	4.60	69.2	330	2495	2.17
Airveying	375377.88	3845858.47	282	0	0.02	0	0	0	3.6	294	1930	0.75
Airveying	375379.98	3845854.74	282	0	0.03	0	0	0	3.9	294	4122	0.83
Box/Tote airveying	375314.96	3845842.62	281	0	0.03	0	0	0	8.6	294	7393	1.17
Flake Silo Airveying G1/G2 Dryer	375335.53	3845880.29	280	0	0.04	0	0	0	8.8	294	7814	1.00
Airveying	375392.89	3845890.53	281	0	0.03	0	0	0	14.4	311	2	1.17
Building/Vacuum	375314.22	3845903.10	279	0	0.04	0	0	0	45.0	294	2820	5.00
Steam Boiler #1 - Gas Fired	375412.17	3845814.48	282	4.8636	0.4400	0.03	5.79	0.31850	41.0	561	1518	3.00
Steam Boiler #1 - Fuel Oil Fired	375412.17	3845814.48	282	2.0387	1.3456	2.90	8.1549	0.08150	41.0	561	1518	3.00
Steam Boiler #2 - Gas Fired	375413.51	3845808.18	282	3.4776	0.3146	0.02	4.14	0.22770	50.0	561	612	4.00
Steam Boiler #2 - Fuel Oil Fired	375413.51	3845808.18	282	1.4577	0.3146	0.02	5.831	0.22770	50.0	561	612	4.00
Born Boiler - Gas Fired	375416.23	3845831.37	282	1.512	0.1368	0.01	1.8	0.09900	80.0	644	488	3.00
Born Boiler - Fuel Oil Fired	375416.23	3845831.37	282	0.6338	0.4190	9.02	2.54	0.02540	80.0	644	488	3.00
CARO Boiler - Gas Fired	375417.63	3845825.12	282	2.352	0.2128	0.02	2.8	0.15400	55.0	608	759	3.00
CARO Boiler - Fuel Oil Fired	375417.63	3845825.12	282	0.9859	0.6507	14.00	3.9437	0.03940	55.0	608	759	3.00
017J001	375568.00	3845762.00	283	0	2.314	0.00	0	0	40.0	70	1486	3.41
017J003	375510.00	3845730.00	287	9.20E-02	0.036	0.00198	0.367	0	46.0	320	1528	2.49
017J005	375528.00	3845730.00	287	3.7	0.174	0.008	0.43	0	46.0	370	1250	2.99
017J006	375525.00	3845745.00	286	3.7	0.174	0.008	0.43	0	46.0	370	1250	2.99
020E008	375534.00	3845696.00	287	0	0.197	0	0	0	52.0	82	2	20.44
020E009	375478.00	3845673.00	283	0	0.309	0	0	0	47.0	70	2	33.99
020E003	375581.00	3845710.00	285	0	8.60E-02	0	0	0	42.7	180	2	14.37
020E005	375577.00	3845699.00	286	0	0.686	0	0	0	43.2	90	2	34.45
020E006	375582.00	3845700.00	286	0	0.686	0	0	0	43.0	79	2	45.47

Table 1
3M Greenville
Criteria Pollutant Modeling Analysis
Model Input Data
January, 2004

Source Description	X Location (m)	Y-Location (m)	Elevation (ft)	CO Emission Rate (#/hr)	PM Emission Rate (#/hr)	SOx Emission Rate (#/hr)	NOx Emission Rate (#/hr)	VOC Emission Rate (#/hr)	Stack Height (ft)	Stack Temp. (F)	Exhaust Velocity (ft/min)	Stack Diameter (Ft)
020E058 (HM2 Oven)	375524.53	3845724.39	287	0.4	0.04	0.003	0.48	0	48.0	176	3207	2.42
020E053	375528.00	3845693.00	286	0	1.1	0	0	0	56.9	70	2	10.76
020E055	375531.00	3845687.00	286	0	0.308	0	0	0	60.7	79	2	69.95
020E060 (Bulk Rubber Silo)	375475.88	3845678.01	284	0	0.05	0	0	0	45.6	70	5160	0.67
020E061 (Rubber Feed Hopper)	375533.00	3845718.47	288	0	0.03	0	0	0	48.0	70	3294	0.67
020E062 (Cmpd. Exh. (Melters))	375528.83	3845718.47	288	0	0.07	0	0	0	48.0	70	3255	1.08

Table 2
3M Greenville
Criteria Pollutant Modeling Analysis
Modeling Results
January, 2004

Pollutant	Averaging Period	Year	Maximum Modeled Off-Property Impact (ug/m3)	Background Concentration (ug/m3)	Total Off-Property Impact (ug/m3)	NAAQS Limit (ug/m3)	Total Off-Property Impact exceeds Allowable Impact? (yes/no)
NO(x)	Annual	1987	23.43	13.2	36.6	100	no
		1988	23.15	13.2	36.4	100	no
		1989	23.73	13.2	36.9	100	no
		1990	21.20	13.2	34.4	100	no
		1991	27.72	13.2	40.9	100	no

Pollutant	Averaging Period	Year	Maximum Modeled Off-Property Impact (ug/m3)	Background Concentration (ug/m3)	Total Off-Property Impact (ug/m3)	NAAQS Limit (ug/m3)	Total Off-Property Impact exceeds Allowable Impact? (yes/no)
SO(x)	3-hour	1987	257.85	40	297.9	1300	no
		1988	257.14	40	297.1	1300	no
		1989	287.69	40	327.7	1300	no
		1990	281.52	40	321.5	1300	no
		1991	268.50	40	308.5	1300	no
SO(x)	24-hour	1987	123.84	18	141.8	365	no
		1988	99.83	18	117.8	365	no
		1989	116.52	18	134.5	365	no
		1990	110.38	18	128.4	365	no
		1991	120.74	18	138.7	365	no
SO(x)	Annual	1987	22.47	4	26.5	80	no
		1988	22.75	4	26.8	80	no
		1989	21.40	4	25.4	80	no
		1990	18.69	4	22.7	80	no
		1991	25.80	4	29.8	80	no

Table 2
3M Greenville
Criteria Pollutant Modeling Analysis
Modeling Results
January, 2004

Pollutant	Averaging Period	Year	Maximum Modeled Off-Property Impact (ug/m3)	Background Concentration (ug/m3)	Total Off-Property Impact (ug/m3)	NAAQS Limit (ug/m3)	Total Off-Property Impact exceeds Allowable Impact? (yes/no)
PM10	24-hour	1987	37.50	56	93.5	150	no
		1988	31.22	56	87.2	150	no
		1989	37.03	56	93.0	150	no
		1990	36.39	56	92.4	150	no
		1991	39.07	56	95.1	150	no
PM10	Annual	1987	8.89	34	42.9	50	no
		1988	8.53	34	42.5	50	no
		1989	8.40	34	42.4	50	no
		1990	7.93	34	41.9	50	no
		1991	9.61	34	43.6	50	no

Pollutant	Averaging Period	Year	Maximum Modeled Off-Property Impact (ug/m3)	Background Concentration (ug/m3)	Total Off-Property Impact (ug/m3)	NAAQS Limit (ug/m3)	Total Off-Property Impact exceeds Allowable Impact? (yes/no)
CO	1-hour	1987	278.46	9,700	9,978	40,000	no
		1988	294.13	9,700	9,994	40,000	no
		1989	279.17	9,700	9,979	40,000	no
		1990	287.56	9,700	9,988	40,000	no
		1991	308.77	9,700	10,009	40,000	no
CO	8-hour	1987	127.94	6,600	6,728	10,000	no
		1988	108.89	6,600	6,709	10,000	no
		1989	119.35	6,600	6,719	10,000	no
		1990	127.09	6,600	6,727	10,000	no
		1991	125.86	6,600	6,726	10,000	no

Table 3
3M Greenville
Hazardous Air Pollutant Modeling Analysis
Modeling Results
June, 2004

Model Input

Stack Description	X Location (m)	Y-Location (m)	Elevation (ft)	Acetaldehyde Emission Rate (#/hr)	Ethylene Glycol Emission Rate (#/hr)	Methanol Emission Rate (#/hr)	1,4-Dioxane Emission Rate (#/hr)	Toluene Emission Rate (#/hr)	Stack Height (ft)	Stack Temp. (F)	Exhaust Velocity (ft/min)	Stack Diameter (Ft)
Resin Train #1 & 2	375424.27	3845865.47	283	0.0002	0.0146	0.0272	0.0004	0	104.8	310	564	0.7
Steam Jet Vertical Ejector	375364	3845821	281	2.528	1.397	3.069	0	0	12.5	303	1000	8.3
Steam Jet Vertical Ejector	375361	3845820	281	2.528	1.397	3.069	0	0	6.0	304	900	15.0
TEG Wash Tank West	375325	3845900	279	4.00E-03	0	0	0	0	32.2	350	498	0.3
TEG Wash Tank East	375326	3845901	279	4.00E-03	0	0	0	0	31.9	350	600	0.3
Filter Wash Station	375329	3845901	279	0.13	0	0	0	0	36.2	313	1008	1.3
Extruder	375393	3846020	284	0.1	0	0	0	0	66.3	294	2	30.1
G2 Extruder	375394.26	3845893.47	281	0.22	0	0	0	0	60.0	294	205	1.8
HM-1 LAB Exhaust	375524	3845696	287	0	0	0	0	2.06	64.0	136	990	2.7

Model Output

Pollutant	Averaging Period	Year	Maximum Modeled Off-Property Impact (ug/m3)	South Carolina *MAAC Standard 8 Limit (ug/m3)	Off-Property Impact Exceeds State Limit? (yes/no)
Acetaldehyde	24-hour	1987	66.38	1800	no
		1988	58.88	1800	no
		1989	61.50	1800	no
		1990	112.35	1800	no
		1991	68.65	1800	no

Pollutant	Averaging Period	Year	Maximum Modeled Off-Property Impact (ug/m3)	South Carolina *MAAC Standard 8 Limit (ug/m3)	Off-Property Impact Exceeds State Limit? (yes/no)
Methanol	24-hour	1987	78.93	1310	no
		1988	68.91	1310	no
		1989	72.83	1310	no
		1990	135.18	1310	no
		1991	82.11	1310	no

Table 3
3M Greenville
Hazardous Air Pollutant Modeling Analysis
Modeling Results
June, 2004

Pollutant	Averaging Period	Year	Maximum Modeled Off-Property Impact (ug/m3)	South Carolina *MAAC Standard 8 Limit (ug/m3)	Off-Property Impact Exceeds State Limit? (yes/no)
Ethylene Glycol	24-hour	1987	35.71	650	no
		1988	31.20	650	no
		1989	32.96	650	no
		1990	61.16	650	no
		1991	37.15	650	no

Pollutant	Averaging Period	Year	Maximum Modeled Off-Property Impact (ug/m3)	South Carolina *MAAC Standard 8 Limit (ug/m3)	Off-Property Impact Exceeds State Limit? (yes/no)
1,4-Dioxane	24-hour	1987	0.00128	450	no
		1988	0.00129	450	no
		1989	0.00169	450	no
		1990	0.00187	450	no
		1991	0.00152	450	no

Pollutant	Averaging Period	Year	Maximum Modeled Off-Property Impact (ug/m3)	South Carolina *MAAC Standard 8 Limit (ug/m3)	Off-Property Impact Exceeds State Limit? (yes/no)
Toluene	24-hour	1987	13.78	2000	no
		1988	6.28	2000	no
		1989	9.39	2000	no
		1990	7.77	2000	no
		1991	7.51	2000	no

* Maximum Allowable Ambient Air Concentration (MAAC)

Attachment G

Federal & State Regulatory Applicability Review

**3M Greenville Film Plant
South Carolina and Federal Air Quality Requirements
Summary Table**

EQUIPMENT	ID #	TYPE	POTENTIALLY APPLICABLE / APPLICABLE REQUIREMENT	COMPLIANCE METHOD PROVISION
Various Units	01: PP1, PC1, PC2, ICR1, 02: PP2, PC3, PC4, ICR2, RGDT 04: DMTT 07: G2GR, G2ET, 08: 09: RBFG	State	Visible emissions from process industries (Reg. 62.5, Standard 4, Section IX).	Limit opacity to < 20% - began construction or modification after 12/31/85.
Various Units	01: EGT, EGR1, MER1, 02: EGR2, MER2, 03: EJT1, 04: REGT, MEOH, VEGT 05: VSILO, FOT1, FOT2 06: 07: G2DT, G2XT, G2PC, G2GC, G2C, DTOW2 09: FSILO, PTZR, RSILO 10; 11; 12; 13; 14; 15	State	Visible emissions from process industries (Reg. 62.5, Standard 4, Section IX).	Limit opacity to < 40% - began construction or modification before 12/31/85.
Silo	05: VSILO	State	Other manufacturing from process industries (Reg. 62.5, Standard 4, Section VIII).	Limit particulate matter emissions from material handling system to < 53.12 lbs/hour.
G1 Film Line	06	State	Other manufacturing from process industries (Reg. 62.5, Standard 4, Section VIII).	Limit particulate matter emissions from material handling system to < 6.30 lbs/hour.
1, G2 and G3 Film Lines	06: G1TN; 07: G2PC, G2GC, G2C; 15: G3GC1, G3C	State	Surface coating of paper, vinyl, and fabric (Reg. 62.5, Standard 5, Section II, Part C).	Limit volatile organic compound content of coatings to 2.9 lbs/gallon, excluding water and exempt solvents. The definition of "paper coating" includes coating in related web processes on plastic film
Visual Converting Process	08	State	Other manufacturing from process industries (Reg. 62.5, Standard 4, Section VIII).	Limit particulate matter emissions from material handling system to < 0.04 lbs/hour.
PET Reclaim Process	09	State	Other manufacturing from process industries (Reg. 62.5, Standard 4, Section VIII).	Limit particulate matter emissions from material handling system to < 11.89 lbs/hour.
Box/Tote Material Handling	10	State	Other manufacturing from process industries (Reg. 62.5, Standard 4, Section VIII).	Limit particulate matter emissions from material handling system to < 27.63 lbs/hour.
G1 and G2	06: DOTW1; 07: DOTW2	State	Other manufacturing from process industries (Reg. 62.5, Standard 4, Section VIII).	Limit particulate matter emissions from material handling system to < 34.24 lbs/hour.
Steam Boiler 1; Steam Boiler 2	11 and 12 (each)	State	Emissions from Fuel Burning Operations (Reg. 62.5, Standard 1, Section II).	Limit particulate matter to < 0.6 lb/10E6 BTU
		State	Emissions from Fuel Burning Operations (Reg. 62.5, Standard 1, Section III).	Limit SO2 to < 3.5 lb/10E6 BTU
		State	Permit Requirements (Reg. 62.1, Section II, Part H).	Limit SO2 to < 40 tpy
Steam Boiler 1; Steam Boiler 2	11 and 12	State	Permit Requirements (Reg. 62.1, Section II, Part H).	Limit SO2 % content ≤ 0.5%

3M Greenville Film Plant
South Carolina and Federal Air Quality Requirements
Summary Table

EQUIPMENT	ID #	TYPE	POTENTIALLY APPLICABLE / APPLICABLE REQUIREMENT	COMPLIANCE METHOD PROVISION
Born Oil Heater; Carotek Oil Heater	<u>13</u> and <u>14</u>	State	Emissions from Fuel Burning Operations (Reg. 62.5, Standard 1, Section II).	Limit particulate matter to < 0.6 lb/10E6 BTU
		State	Emissions from Fuel Burning Operations (Reg. 62.5, Standard 1, Section III).	Limit SO2 to < 3.5 lb/10E6 BTU
		State	Permit Requirements (Reg. 62.1, Secion II, Part H).	Limit SO2 to < 40 tpy
		State	Permit Requirements (Reg. 62.1, Secion II, Part H).	Limit SO2 % content ≤ 0.5%
Carotek Oil Heater	<u>14</u>	State	Permit Requirements (Reg. 62.1, Secion II, Part H).	Limit Fuel Consumption < 1,098,950 gallons/yr No. 2 Fuel Oil
G1, G2 and G3 Film Lines	<u>06; 07 & 15</u>	Federal	40 CFR 60 Subpart RR - Standards of Performance for New Stationary Sources - Pressure Sensitive Tape and Label Surface Coating Operations.	DOES NOT APPLY - 3M film lines do not make tapes or labels
Sources Subject to a Subpart of 40 CFR 63		Federal	40 CFR 63 Subpart A, General Provisions	General provisions including notification, recordkeeping, etc.
Resin Train 1 and 2	<u>01, 01A</u> <u>02, 02A;</u> <u>03</u> <u>04</u> : MEOH, REGT	Federal	40 CFR 63 Subpart JJJ - Polymers and Resins IV	Group 2 Process Vent Batch Mass Input; Group 2 Wastewater. Limit 3,504 batches/yr Primary product; SSM; Notify process changes, Report requirements.
Resin Tank	<u>04</u> : MEOH	Federal	40 CFR 63 Subpart JJJ - Polymers and Resins IV	Group 1 Storage Tank. Emissions Averagins, SSM
Resin Train 1, 2 and Ink Farm	<u>01; 01A;</u> <u>02; 02A;</u> <u>03; 04</u>	Federal	40 CFR 63 Subpart H - HON referenced by JJJ for LDAR	LDAR - Organic HAPs. Method 21, Sensory
G1, G2 and G3 Film Lines	<u>06; 07 & 15</u>	Federal	40 CFR 63 Subparts JJJJ. "Paper and Other Web Coating" One of the national emission standards for hazardous air pollutants from surface coating.	40 CFR Part 63 JJJJ applies - facility is a Title III Major Source, AND there is at least 1 web coating line at the facility: 95% overall HAP emission reduction as calculated over a calendar month; or 0.04 kg of HAPs emitted/kg of coating applied each calendar month; or 0.20 kg of HAPs emitted/kg of coating solids applied each calendar month.
Resin Train 1 and 2	<u>01</u> : PC1, PC2, ICR1, <u>02</u> : PC3, PC4, ICR2,	Federal	40 CFR 60 Subpart DDD- Standards of Performance for New Stationary Sources - VOC emissions from Polymer mfg industry (Includes PET)	DOES NOT APPLY - source not subject to regulation (not continuous processes)
Train 1 and Train 2	<u>01, 01A</u> <u>02, 02A</u>	Federal	40 CFR 60 Subpart RRR- Standards of Performance for New Stationary Sources - VOC emissions from SOCMI Reactor processes	DOES NOT APPLY - Source not subject to regulation (does not make any of the listed chemicals)
G1, G2 and G3 Film Lines	<u>06; 07 & 15</u>	Federal	40 CFR 60 Subpart VVV - Standards of Performance for New Stationary Sources - Polymeric Coating of Supporting Substrates facilities.	DOES NOT APPLY - Source not subject to regulation
Sources Subject to a Subpart of 40 CFR 60		Federal	40 CFR 60 Subpart A - General provisions.	General provisions including notification, recordkeeping, etc.
Boilers and Heaters	<u>11 ; 12</u> <u>13 & 14</u>	Federal	40 CFR 63 Subparts DDDDD- "Industrial Boilers and Process Heaters"	Units may be subject to regulation- Rule is under Public Notice, anticipated to be final in December 2010.

3M Greenville Film Plant
South Carolina and Federal Air Quality Requirements
Summary Table

EQUIPMENT	ID #	TYPE	POTENTIALLY APPLICABLE / APPLICABLE REQUIREMENT	COMPLIANCE METHOD PROVISION
G1, G2 and G3 Film Lines	<u>06; 07 & 15</u>	Federal	40 CFR 63 Subpart HHHHH- Miscellaneous Coating Manufacturing	NO REQUIREMENTS - All coatings are used on-site on a JJJ regulated line.
Resin/Film Baghouses	<u>06; 07 & 15</u>	Federal	40 CFR 64 - EPA regulations on Compliance Assurance Monitoring	
Generator (Propane fuel);	N/A	Federal	40 CFR 60 Subpart JJJJ- Standards of Performance for New Stationary Sources - Spark Ignition Internal Combustion Engines	DOES NOT APPLY - Unit installed before July 1, 2009.
Generator (Propane fuel);	N/A	Federal	40 CFR 63 Subpart ZZZZ - Standards of Performance for New Stationary Sources - Reciprocating Internal Combustion Engines	NO REQUIREMENTS- Unit is < 500 brake HP and is use for emergency only
Generator - Fire pump (diesel fuel)	N/A	Federal	40 CFR 63 Subpart ZZZZ - Standards of Performance for New Stationary Sources - Reciprocating Internal Combustion Engines	NO REQUIREMENTS- Unit is < 500 brake HP and is use for emergency only
		Federal	40 CFR 60 Subpart IIII- Standards of Performance for New Stationary Sources - Compression Ignition Internal Combustion Engines	Must comply with emission standards in table 4 to this subpart for all pollutants (manufacturer-certified): • NMHC+NOX: 10.5 g/kW-hr (7.8 g/HP-hr) • CO: 3.5 g/kW-hr (2.6 g/HP-hr) • PM: 0.54 g/kW-hr (0.40 g/HP-hr) Use of required recordkeeping and reporting.
cility	N/A	Federal	40 CFR 70 Operating Program (Title V Major Sources)	As determined by state permit authority
		Federal	40 CFR 82 Subpart F - Ozone Depleting Substances	Certification, recordkeeping and reporting requirements as specified in Subpart F
		Federal	40 CFR 68- Risk Management Program/Chemical Accident Prevention Provisions	NO RMP chemicals are present greater than threshold quantities in a single process. General duty and monitor RMs
		Federal	40 CFR 82 Subpart H - Ozone depleting substances Halon Manufacture, Release and Disposal, and Technician Training	Proper handling, disposal and technician training as specified in Subpart H.

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July 14, 2010

Tom Waldon
3M Company – Greenville Film
1400 Perimeter Road
Greenville, SC 29605

Re : Completeness Determination of Part 70 Air Quality Permit Application
3M Company – Greenville Film (Permit No. 1200-0073)
Greenville County
Greenville, South Carolina

Dear Mr. Waldon:

The South Carolina Department of Health and Environmental Control, Bureau of Air Quality (Bureau), on June 28, 2010, received the Part 70 Air Quality (Title V Operating) permit application submitted by 3M Company for the above-referenced facility. The completeness review period for the application officially began on this date. Upon review, the application has been deemed complete and the application shield granted, effective June 28, 2010.

The permit application will now undergo a technical review by the assigned permit engineer. Please remember that any requests from the Bureau for additional technical information must meet specified deadlines. Failure to do so could result in the removal of the application shield.

Should you have any questions concerning the application shield or technical review, please contact the appropriate staff member, Janelle Trowhill, of this office, at (803) 898-4108 or trowhijj@dhec.sc.gov.

Sincerely,

Elizabeth J. Basil, Director
Engineering Services Division
Bureau of Air Quality

EJB:CDH:el

cc: Bill Williamson, Region 2, Greenville EQC Office
Title V Permit File: 1200-0073

AIR DISPERSION MODELING SUMMARY SHEET

COMPANY/FACILITY: 3M Company Greenville Film

LOCATION (COUNTY): Greenville, SC

PERMIT NUMBER: TV-1200-0148-1200-0073

DATE: 12/22/2010

REVIEWED BY: MRH

REASON MODELED:	<u> </u>	CONSTRUCTION PERMIT	<u> </u>	CONDITIONAL MAJOR
	<u> </u>	NEW OPERATING PERMIT	<u> X </u>	TITLE V PERMIT
	<u> X </u>	OPERATING PERMIT RENEWAL	<u> </u>	TITLE V OPFLEX
	<u> </u>	AIR COMPLIANCE DEMO	<u> </u>	PSD MAJOR

MODELED FOR: X NAAQS X PSD INCREMENT
 AIR TOXICS

OTHER:

_____	EXEMPTION	_____	DEFERRAL
_____	DE MINIMIS	X	COLLOCATED (Yes)

PROJECT DESCRIPTION: The 3M Greenville Film Plant is requesting a Title V renewal. This facility is co-located with the 3M Greenville Tape Plant (1200-0148). All sources from both facilities are included in this modeling summary sheet.

SUMMARY OF MODELING ANALYSIS & RESULTS: The facility submitted AERMOD modeling for the Film Plant and the Tape Plant. The PM/PM10 pollutant was modeled for standards No. 2 & No. 7. There have been no changes to any other pollutant emissions. The 3M Film Plant ID # 1200-0073 is collocated with the Tape Plant ID # 1200-0148. The two facilities are modeled together. The summary sheet will be filed under each facility's permit number. The Film plant was modeled in March (3/24/10) for a Title V renewal. All changes are in listed in **bold**.

STANDARD NO. 2 - AMBIENT AIR QUALITY STANDARDS MODELING ANALYSIS							
Pollutant	Averaging Time	Model Used	Maximum Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Background Concentration ($\mu\text{g}/\text{m}^3$)	Total ($\mu\text{g}/\text{m}^3$)	Standard ($\mu\text{g}/\text{m}^3$)	% of Standard
TSP	Annual	AERMOD	16.30	27.1	43	75	57%
PM ₁₀	24 Hour	AERMOD	61.26*	50.7	112	150	75%
	Annual	AERMOD	14.98	19.8	35	50	70%
SO ₂	3 Hour	ISCST3	287.68	68.4	356.08	1300	27%
	24 Hour	ISCST3	120.74	34.2	154.94	365	42%
	Annual	ISCST3	25.80	7.9	33.70	80	42%
NO _x	Annual	ISCST3	27.73	28.3	56.03	100	56%
CO	1 Hour	ISCST3	325.45	5405	5730.45	40,000	14%
	8 Hour	ISCST3	127.17	3910	4037.17	10,000	40%

*The 6th high was used for the PM10 24 hr concentration.

STANDARD NO. 8 – TOXIC AIR POLLUTANTS LEVEL I DE MINIMIS ANALYSIS

POLLUTANT	CAS NUMBER	EMISSION RATE (LBS/DAY)	DE MINIMIS (LBS/DAY)
Diethanolamine	111-42-2	1.44	1.548
Glycol Ethers	N/A	30.00	+
Hexane	110-54-3	0.3194	10.800
Methyl Ethyl Ketone	78-93-3	3.00	177.000
Methyl Isobutyl Ketone	108-10-1	0.24	24.600
2,2,4-Trimethylpentane	540-84-1	0.312	105.000
Ethylene Imine	151-56-4	2.27E-07	0.060
+ To be determined.			

STANDARD NO. 2 - MODELED AAQS EMISSION RATES (LBS/HR)						
STACK ID		TSP	PM₁₀	SO₂	NO_x	CO
Film Plant						
003E_001	Steam Boiler #1	1.37	0.95	30.30	21.23	4.86
003E_002	Steam Boiler #2	0.98	0.68	4.33	15.18	3.48
003E_003	Born Oil Heater	0.42	0.30	--	--	--
003E_004	Carotek Oil Heater	0.66	0.46	14.65	10.29	2.35
007E_005	G2 Edge Trim	1.52E-03	1.52E-03	--	--	--
007E_006	G1GR	0.016	0.016	--	--	--
007E_007	G2 Grinder	0.004	0.004	--	--	--
007E_008	Dryer Tower G2(BH5)*	9.52E-03	9.52E-03	--	--	--
009E_014	Flake Silo	1.29E-02	1.29E-02	--	--	--
009E_015	Box/Tote Airveying	1.27E-04	1.27E-04	--	--	--
888E_001	Virgin Silo	0.020	0.018	--	--	--
888E_002	Reclaim Silo	0.030	0.013	--	--	--
888E_035	VSET Edge	0.002	0.001	--	--	--
888E_037	PET Reclaim Building	0.040	0.13	--	--	--
888E_038	PET Reclaim Vacuum	0.17	0.006	--	--	--
888E_039		--	0.95E-03	--	--	--
026E_006	G-3 Floor Scrap Grinder 1	0.00024	0.015	--	--	--
026E_007	G-3Floor Scrap Grinder 2	0.006	0.014	--	--	--
026E_008	G-3 Floor Scrap Grinder 3	0.00107	0.00107	--	--	--
026E_021	G-3 Die/Casting Wheel	0.119	0.616	--	--	--
026E_023	G-3 Die/Casting Wheel	0.119	0.616	--	--	--
TAPE PLANT						
888E_15	HM2 Coating Line Bulk Storage Silo	0.06	0.06	--	--	--
888E_019	HM2 Coating Line Bulk Storage Silo #2	0.06	0.06	--	--	--
17J_001	17J Baghouse	2.30	2.30	--	--	--
17J_003	J012 Flame Treater	0.036	0.21E-02	0.002	0.367	0.092
17J_005/006	J010 Tenter Oven	0.045	0.09	0.016	0.860	7.400
20E_005	J016, 017 & J013	--	0.34	--	--	--
20E_006	J016, 017 & J013	0.55	0.55	--	--	--
20E_008	A002 Airvey	0.197	0.01	--	--	--
20E_009	A001 Airvey	0.789	0.022	--	--	--
20E_053	A004 Resin Hopper	0.560	0.560	--	--	--
20E_055	A008 Melters A & B	0.817	0.817	--	--	--

STANDARD NO. 8 - MODELED AIR TOXIC EMISSION RATES TABLE 1 (LBS/HR)				
Film Plant-Permit ID #1200-0073				
MODELING STACK ID	SOURCE ID	Acetaldehyde	Antimony Compounds	Benzene
		72-07-0	N/A	71-43-2
001_002	G1 Tenter	--	0.017	--
001E_057	G1XT G1 Extruder	0.13	--	--
001E_097	PP2 Esterification System #2	0.0001	--	--
001E_098	Polycon #4	0.0001	--	--
001E_099	Polycon #3	0.0001	--	--
001E_101	Polycon #2	0.0001	--	--
001E_102	Polycon #1	0.0001	--	--
001E_103	PP1 Esterification System #1	0.0001	--	--
001E_112	Numerous sources	0.0002	--	--
007E_001	G2GCG Coater	--	0.017	--
007E_002	G2GC G Coater	--	0.017	--
007E_003	G2PC P Coater	--	0.017	--
007_004	G2PC P Coater	--	0.017	--
007E_073	G2 Extruder	0.22	--	--
009E_005	Triethylene Glycol Wash Tank West	0.004	--	--
009E_005	Triethylene Glycol Wash Tank East	0.004	--	--
009E_011	Filter Wash Station	0.13	--	--
888E_003	EJT1 Vertical Ejector Tower	2.528	--	--
888E_004	EJT2 Vertical Ejector Tower	2.528	--	--
20E_001	C002 LAB Station and Dryer	--	--	0.037
FACILITY TOTAL		5.54	0.085	0.037

STANDARD NO. 8 - MODELED AIR TOXIC EMISSION RATES TABLE 3 (LBS/HR)				
Film Plant-Permit ID #1200-0073				
MODELING STACK ID	SOURCE ID	Ethylbenzene	Ethylene Glycol	Formaldehyde
		100-41-4	107-21-1	50-00-0
001_002	G1 Tenter	--	0.17	0.007
001E_097	PP2 Esterification System #2	--	0.00187	--
001E_098	Polycon #4	--	0.00187	--
001E_099	Polycon #3	--	0.00187	--
001E_101	Polycon #2	--	0.00187	--
001E_102	Polycon #1	--	0.00187	--
001E_103	PP1 Esterification System #1	--	0.00187	--
001E_112	Numerous sources	--	0.0146	--
007E_001	G2GCG Coater	--	0.17	0.007
007E_002	G2GC G Coater	--	0.17	0.007
007E_003	G2PC P Coater	--	0.17	0.007
007_004	G2PC P Coater	--	0.17	0.007
007E_073	G2 Extruder	--		--
888E_003	EJT1 Vertical Ejector Tower	--	1.397	--
888E_004	EJT2 Vertical Ejector Tower	--	1.397	--
888E_005	Methanol Tank	--	6.2E-06	--
888E_006	Virgin EG Tank	--	0.17	0.007
888E_035	C002 LAB Station and Dryer	--	0.00187	--
20E_001	C002 LAB Station and Dryer	36.254	--	--
88E_012	LAB Tank	0.1206	--	--
88E_013	Solvent Tank	0.17	--	--
88E_014	Backup Solvent Tank	0.17	--	--
FACILITY TOTAL		36.7146	3.84169	0.042

STANDARD NO. 8 - MODELED AIR TOXIC EMISSION RATES TABLE 5 (LBS/HR)				
Film Plant-Permit ID #1200-0073				
MODELING STACK ID	SOURCE ID	Toluene	Vinylidene Chloride	Xylene
		108-88-3	75-35-4	1330-20-7
020E_001	C002 LAB Station and Dryer	42.437	--	120.508
020E_006	E001/E003 Grinders	0.009	--	0.027
888E_012	LAB Tank	0.077	--	0.405
888E_013	Solvent Tank	0.199	--	0.565
888E_014	Backup Solvent Tank	0.199	--	0.565
026E-005	G-3 Coater #1	--	0.449	--
FACILITY TOTAL		42.921	0.449	122.079

COLLOCATION SOURCE CROSS-REFERENCE TABLE	
STACK IDENTIFICATION	FACILITY PERMIT NUMBER
003_001 Steam Boiler #1- Gas Fired	Permit ID# 1200-0073
003E_002 Steam Boiler #2 – Gas Fired	Permit ID# 1200-0073
003E_004 CAARO Boiler –Gas Fired	Permit ID# 1200-0073
007E_005 Airveying G1 Coater Grinder	Permit ID# 1200-0073
007E_006 Airveying	Permit ID# 1200-0073
007E_007 Airveying G2 Edge Trim	Permit ID# 1200-0073
007E_008 Airveying	Permit ID# 1200-0073
009E_014 Flake Silo Airveying G1/G2 Dryer	Permit ID# 1200-0073
009E_015 Box/Tote Airveying	Permit ID# 1200-0073
026_021 G-3 Film Line	Permit ID# 1200-0073
026E_006 G-3 Film Line	Permit ID# 1200-0073
026E_007 G-3 Film Line	Permit ID# 1200-0073
026E_023 G-3 Film Line	Permit ID# 1200-0073
888_001 Airveying	Permit ID# 1200-0073
888E_002 Airveying	Permit ID# 1200-0073
888E_037 Building/Vacuum	Permit ID# 1200-0073
888E_038 G1 edge Trim Baghouse	Permit ID# 1200-0073
888E_039 G1 and G2 Drying Tower Baghouse	Permit ID# 1200-0073
017J_001 J001 through 006, 013, 014, 018, 019	Permit ID# 1200-0148
017J_003 J 012 (Flame Treater)	Permit ID# 1200-0148
017J_005 J010 (Tenter Oven)	Permit ID# 1200-0148
017J_006 J010 (Tenter Oven)	Permit ID# 1200-0148
020E_005 J016, 017 & J013	Permit ID# 1200-0148

POINT SOURCE PARAMETERS

STACK ID	DATE LAST MODELED	LOCATION (UTM)		STACK HEIGHT (FT)	EXIT TEMP. (°F)	EXIT VELOCITY (FT/SEC)	STACK DIAMETER (FT)	DISCHARGE ORIENTATION	RAIN CAP?	BUILDING PARAMETERS			DIST TO PROPERTY LINE (FT)
		EAST (M)	NORTH (M)							HEIGHT (FT)	WIDTH (FT)	LENGTH (FT)	
FILM PLANT- Permit ID# 1200-0073													
001E_002 G1 Tenter	7/16/04	375414	3845937	51.12	266	23.26	1.42	Vertical	No	96.3	65.6	65.6	584
001E_057 G1XT G1 Extruder	7/16/04	375393	3846020	66.31	68	0.0328	30.12	45 deg. down	N/A	96.3	59.1	59.1	574
001E_097 PP2 Esterification System #2	7/16/04	375438	3845861	101.41	195	21.23 ¹ (15.01)	0.25	Vertical	No	104	68.9	68.9	610
001E_098 Polycon #4	7/16/04	375435	3845862	98.33	210	45.93	0.17	Vertical	No	104	68.9	68.9	600
001E_099 Polycon #3	7/16/04	375436	3845865	101.25	210	21.23 ¹ (15.01)	0.25	Vertical	No	104	68.9	68.9	607
001E_101 Polycon #2	7/16/04	375435	3845871	101.33	198	21.23 ¹ (15.01)	0.25	45 deg. up	No	104	68.9	68.9	607
001E_102 Polycon #1	7/16/04	375432	3845873	98.82	195	45.93	0.17	Vertical	No	104	68.9	68.9	597
001E_103 PP1 esterification System #1	7/16/04	375434	3845875	101.41	195	21.23 ¹ (15.01)	0.25	45 deg. up	No	104	68.9	68.9	607
001E_112 Numerous sources	7/16/04	375424	3845865	104.83	99	9.4 ²	0.67	Downward	N/A	104	68.9	68.9	568
003E_001 Steam Boiler #1	12/2010	375429	3846024	41.0	561	25.30	3.00	Vertical	No	96.3	65.6	65.6	495
003E_002 Steam Boiler #2	12/2010	375431	3846018	50.0	561	10.20	4.00	Vertical	No	96.3	65.6	65.6	495
003E_0003 Born Oil Heater	12/2010	375434	3846041	80	700	8.14	3.00						
003E_004 Carotek Oil Heater	12/2010	375435	3846035	55.0	608	12.66	3.00	Vertical	No	96.3	65.6	65.6	522
007E_001 G2GC G Coater	7/16/04	375383	3845977	69.21	135	39.38 ²	2.17	45 deg. down	N/A	104	55.8	55.8	512
007E_002 G2GC G Coater	7/16/04	375381	3845977	69.21	135	41.58 ²	2.17	45 deg. down	N/A	104	55.8	55.8	505
007E_003 G2PC P Coater	7/16/04	375396	3845913	64.13	138	83.33 ²	1.17	45 deg. down	N/A	104	68.9	68.9	512
007E_004 G2PC P Coater	7/16/04	375393	3845913	64.13	132	45.23 ²	1.17	45 deg. down	N/A	104	68.9	68.9	502
007E_005 G2 Edge Trim	12/2010	375411	3846193	14.0	310	43.8 ²	1.30	45 deg. down	N/A	96.3	59.1	59.1	551
007E_006 G1GR	12/2010	375408	3846192	19.10	Amb.	0.0328	0.30	Downward	N/A	96.3	59.1	59.1	541
007E_007 G2 Grinder	12/2010	375380	3846195	3.58	Amb.	39.17 ²	2.00	45 deg. down	N/A	96.3	65.6	65.6	456
007E_008 G1/G2 Dryer	12/2010	375410	3846100	14.4	311	51.45 ²	1.17	Horizontal	No	104	68.9	68.9	486
007E_073 G2 Extruder	7/16/04	375394	3845893	59.97	70	3.42 ²	1.75	Horizontal	No	104	68.9	68.9	489

888E_037 PET Reclaim Building	12/2010	375332	3846113	45	Amb.	47.0	5.00	Vertical	No	104	82	82	250
888E_038 G1 Edge Trim Baghouse	12/2010	375411	3846193	11.67	80	68	1.33						
888E_039 G1 and G2 Drying Tower Baghouse	12/2010	375475	3846256	14.5	Amb.	30	2.67						
026E-005G-3Coater #1	04/17/07	375309	3846007	56	70	33.33	1.78	Vertical	No	50	150	600	300
026E-006 G-3 Floor Scrap Grinder 1	12/2010	375313	3846154	15	Amb.	70.7	3.0	Vertical	No	50	150	600	210
026E-007 G-3Floor Scrap Grinder 2	12/2010	375312	3846144	15	Amb.	59.7	1.33	Vertical	No	50	150	600	200
026E-008 G-3 Floor Scrap Grinder 3	04/17/07	375336	3846013	15	70	12.5	2.26	Vertical	No	50	150	600	390
026E-009 G-3 Floor Scrap Grinder 4	04/17/07	375332	3846035	15	70	12.5	2.26	Vertical	No	50	150	600	390
026E-010 G-3 Oven #1	04/17/07	375324	3846022	56	250	33.78	1.59	Vertical	No	50	150	600	270
026E-011 G-3 Oven #1	04/17/07	375324	3846022	56	250	33.78	1.59	Vertical	No	50	150	600	270
026E-012 G-3 Oven #1	04/17/07	375322	3846034	56	400	35.1	2.13	Vertical	No	50	150	600	270
026E-013 G-3 Oven #1	04/17/07	375321	3846040	56	450	33.7	1.78	Vertical	No	50	150	600	270
026E-014 G-3 Oven #1	04/17/07	375320	3846046	56	400	35.1	2.46	Vertical	No	50	150	600	270
026E-015 G-3 Oven #1	04/17/07	375318	3846053	56	250	33.8	2.75	Vertical	No	50	150	600	270
026E-016 G-3 Oven #1	04/17/07	375317	3846059	56	140	33.2	3.58	Vertical	No	50	150	600	270
026E-017 G-3 Edge Trim Grinder 1	04/17/07	375328	3846058	15	70	12.5	2.26	Vertical	No	50	150	600	390
026E-018 G-3 Edge Trim Grinder 2	04/17/07	375323	3846081	15	70	12.5	2.26	Vertical	No	50	150	600	390
026E-019 G-3 Coater #2	04/17/07	375297	3846071	56	70	33.33	1.78	Vertical	No	50	150	600	302
026E-020 G-3 Oven #2	04/17/07	375293	3846091	56	200	33.33	1.78	Vertical	No	50	150	600	299
026E-021 G-3 Die/Casting Wheel	12/2010	375336	3846186	56	120	33.5	3.77	Vertical	No	50	150	600	361
026E-022 G-3 Extruder Vacuum Pump	04/17/07	375336	3845965	126	550	16.67	1.13	Vertical	No	50	150	600	360
026E-023 G-3 Die/Casting Wheel	12/2010	375335	3846189	56	80	35.8	3.65	Vertical	No	50	150	600	308
026E-001 G-3 Aspirator Feed Hoppers	04/17/07	N/A	N/A	N/A	68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

020E_053 A004 Resin Hopper	12/2010	375554	3845903	56.9	Amb.	0.0328	1.09	Vertical	Yes				
020E_055 A008 Melters A & B	12/2010	375548	3845896	60.7	79	52.43	1.75	Vertical	No				
020E_058 C007 Drying Oven	12/2010	375542	3845934	48.0	176	53.45	2.42	Vertical	No	38	509	485	600
020E-075 E006	12/2010	375490	3845899	67	Amb.	0.0328	0.75						
020E_076 E007	12/2010	375490	3845899	67	Amb.	0.0328	0.75						
020E_077 E008	12/2010	375492	3845889	67	Amb.	0.0328	0.75						
020E_082 A011 Bulk Rubber Silo	12/2010	375491	3845882	47	Amb.	0.0328	0.67	Vertical	No	38	509	485	600
021E_003 A014 Antioxidant Melters A & B	12/2010	375574	3845922	48.0	87	65.29	1.6	Vertical	No	38	509	485	600
888E_012 LAB Tank	11/26/96	375403	3845648	24.96	68	0.0328	0.33	Vertical	Yes				
888E_013 Solvent Tank	11/26/96	375407	3845649	24.96	68	0.0328	0.33	Vertical	Yes				
888E_014 Backup Solvent Tank	11/26/96	375410	3845645	14.38	68	0.0328	0.33	Vertical	Yes				
888E_015 A015	12/2010	375552	3845821	41	Amb.	0.0328	3.75						
888E_019 A016	12/2010	375550	3845826	41	Amb.	0.0328	3.75						
1) The vertical component of the exit velocity used in the model is listed in parentheses. 2) Modeled at 0.0328 ft/sec. *) G1/G2 Dryer PM/PM10 emissions are being split between BH5 (existing baghouse) and BH13 (new baghouse). No change to modeling. 9/20/06 Summary.													

AERMOD / AERMAP SPECIFICATIONS TABLE

MET DATA	GSP 2002-2006 [Surface Air = Greenville/Spartanburg SC; Upper Air = Greensboro, NC; 972 ft MSL]			
NED TERRAIN FILES	Anderson, Greenville, Pickens			
PROJECTION DATUM	NAD27 <input type="checkbox"/>	NAD83 <input checked="" type="checkbox"/>	WGS-84 <input type="checkbox"/>	NWS-84 <input type="checkbox"/>
RURAL or URBAN?	Rural <input checked="" type="checkbox"/>	Urban <input type="checkbox"/>		
ELEVATIONS EXTRACTED	Buildings <input checked="" type="checkbox"/>	Sources <input checked="" type="checkbox"/>	Tanks <input type="checkbox"/>	Receptors <input checked="" type="checkbox"/>